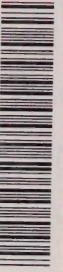



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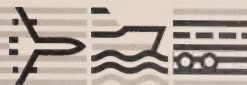
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TRANSPORTATION IN CANADA 2003

ANNUAL REPORT



Canada

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Minister of Transport



Ministre des Transports

Ottawa, Canada K1A 0N5

Her Excellency the Right Honourable Adrienne Clarkson, C.C., C.M.M., C.O.M., C.D.
Governor General of Canada
Rideau Hall
1 Sussex Drive
Ottawa, Ontario
K1A 0A1

APR 30 2004

Excellency:

It is with great pleasure that I submit to your attention the eighth Annual Report on the state of transportation in Canada. This report is produced in conformity with the statutory requirements spelled out in Section 52 of the *Canada Transportation Act*.

The importance of transportation is first and foremost driven by the size of our country. The report clearly shows the fundamental role played by transportation in supporting and enabling both economic and social activities. The state of transportation is assessed through the analysis of the most recent information available on the Canadian transportation system.

Our country's transportation system has to satisfy our transportation needs and to adjust when our needs change. Numerous factors come into play in defining and changing transportation needs, the most significant being the type and level of economic and social activities, their physical location, and trade with other countries.

This report provides information and analysis on trends from which the reader can get a better understanding of the challenges and pressures confronting our transportation system. Some attention, where possible, is devoted to the responses being implemented to face challenges.

Yours sincerely,

A handwritten signature in dark ink, reading "Tony Valeri".

Hon. Tony Valeri, P.C., M.P.

Canada

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TRANSPORTATION AND THE ECONOMY

- In 2003, the growth of the Canadian economy slowed down significantly, growing in real terms by 1.7 per cent.
- Weakened exports outweighed continued strong consumer expenditures and rebounding business investment to contribute to the economic slowdown.
- The severe acute respiratory syndrome (SARS) outbreak, mad cow disease, the power outage in Ontario and the northeastern United States, and the appreciation of the Canadian dollar all contributed to the economic slowdown.
- The continuing rise of the Canadian dollar prevented exporters from taking advantage of the U.S. economic recovery in the second half of the year.
- The growth rate of the services sector (2.2 per cent) surpassed that of the goods sector (1.8 per cent).
- The value of the Canadian dollar in relation to the U.S. dollar rose steeply throughout most of 2003 from a low of US\$0.635 to a high of US\$0.773 by year-end. Its average value over the year rose 12.1 per cent from 2002.
- The Consumer Price Index increased by 2.8 per cent in 2003. While energy prices rose by 7.9 per cent, transportation prices increased by 5.2 per cent in 2002.
- In real terms, personal disposable income per capita increased by 0.2 per cent in 2003.
- While the population grew by 0.9 per cent, employment increased by 2.3 per cent.
- Saskatchewan and Alberta were the only provinces in 2003 to have lower economic growth than in 2002. Newfoundland and Labrador, on the other hand, again experienced the strongest growth.
- Canada's trade with the United States fell from its \$589 billion peak in 2000 to \$531 billion in 2003.
- Trucking accounted for 63 per cent of this trade with the United States, rail 17 per cent, pipeline 10 per cent, air six per cent and marine three per cent.
- Almost 78 per cent of the trade (in value terms) between Canada and the United States carried by trucks took place at six border crossing points: Windsor/Ambassador bridge, Fort Erie/Niagara Falls, Sarnia and Lansdowne in Ontario, Lacolle in Quebec, and Pacific Highway in British Columbia.
- In terms of volume, pipelines had the largest share of the trade with 33 per cent; trucking was second with 28 per cent, followed by marine with 20 per cent and rail with 19 per cent.
- In 2003, Canada's trade with countries other than the United States totalled \$185 billion, imports being more significant than exports, and marine and air transportation being the two dominant modes for such trade in terms of both value and volume.
- Tourism expenditures, including expenditures on transportation, increased slightly in 2002. Of transportation expenditures related to tourism, air transportation experienced the largest drop. In 2003, domestic travel increased. Overall, international travel to and from Canada was down in 2003, but international travel by Canadians to countries other than the United States increased.
- Pipeline and air transportation each increased domestic energy consumption by 5.2 per cent in 2003. Road transportation energy use increased by 2.2 per cent, while rail and marine transportation energy use declined by 9.3 and 10.2 per cent, respectively.
- Productivity in transportation grew marginally in 2002.
- Commercial transportation services accounted for four per cent of Canada's value-added GDP. In relation to total provincial/territorial GDP, transportation GDP in Prince Edward Island accounted for only 2.2 per cent of the GDP in 2002, while commercial transportation

services had the most significant share of provincial GDP in Manitoba with 6.0 per cent. Of commercial transportation activity captured under the GDP, Ontario and Quebec accounted for 58 per cent, while Alberta and British Columbia accounted for 28 per cent.

- Investment in transportation represented 2.8 per cent of GDP in 2002.
- Overall transportation-related final demand accounted for 13 per cent of total expenditures in the economy in 2003.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2002/03, transportation expenditures by all levels of government totalled \$19.5 billion, \$1.2 billion more than in 2001/02. All levels of government contributed to this increase.
- Government fees and tax revenues from transport users totalled \$14 billion, 7.7 per cent more than the previous year, of which 74 per cent came from road fuel taxes.
- In 2003/04, direct federal transport expenses are expected to be \$1.9 billion, a 6.1 per cent increase over 2002/03.
- In 2003/04, total direct federal subsidies, grants and contributions are expected to grow to \$805 million.
- Provincial, territorial and local governments spent \$17 billion on transportation in 2002/03, with roughly 79 per cent going to roads and highways.
- Also in 2002/03, governments spent \$14 billion on roads, while public spending on public transit services totalled \$2.6 billion. Federal and provincial governments spent \$2 billion on air, marine and rail transportation.
- In 2003, two contribution agreements for highway improvements were signed with the provinces of Ontario and Quebec under the Strategic Highway Infrastructure Program. Nineteen projects were announced, for a total federal contribution of \$264.4 million, which will enhance the efficiency and safety of the national highway system.
- In 2003, more than 20 transportation (highways and transit) projects were announced nationally by the Ministers of Transport and Infrastructure Canada for a total federal contribution of \$2.2 billion under the Canada Strategic Infrastructure Fund and the Border Infrastructure Fund.

- In 2003, a bi-national planning and approval process for a new or improved river crossing between Windsor–Detroit was announced (\$1.3 million federal share) under the National System Integration Component of the Strategic Highway Infrastructure Program.
- To enhance southern Ontario's vital international linkages, more than \$300 million of the federal border funding will be invested in improvements to Canada's top four border crossings, where 65.2 per cent of our bi-national trade with the United States occurs: Windsor, Niagara, Fort Erie and Sarnia.

TRANSPORTATION SAFETY AND SECURITY

- The number of accidents in each of the transportation modes increased in 2003 (for road, the latest data available are for 2002). Despite these increases, the number of accidents in air, rail and road modes, was below the average number of accidents reported in the previous five years. The number of reportable accidents involving dangerous commodities decreased in 2003. The number of fatalities in marine and in rail was down in 2003.
- Rail-related accidents increased by 4.5 per cent in 2003, while fatalities decreased by 20 per cent. Crossing and trespasser accidents continued to account for the majority of fatal accidents (95 per cent) and accidents involving serious injury (92 per cent) in 2003. Fatalities related to crossing accidents dropped from 46 in 2002 to 27 in 2003, while serious injuries increased from 42 to 50.
- Marine accidents increased in 2003, with 483 Canadian vessel accidents compared with 421 in 2002 and 457.4 for the 1998 – 2002 previous five-year average. This increase was attributed to a growth in both shipping accidents and accidents aboard Canadian ships. A total of 19 fatalities and 30 confirmed vessel losses were reported in 2003. Fishing vessels accounted for 54 per cent of the total reported marine accidents, while commercial vessels accounted for 35 per cent.
- Accidents involving Canadian-registered aircraft increased by eight per cent in 2003, mainly as a result of an increase in private operator accidents. The number of fatal accidents remained almost the same in 2003 as in 2002 (31 and 30, respectively), while there were eight more fatalities. Compared with the 1998 – 2002 five-year average, the number of accidents in 2003 fell by eight per cent and there were fewer fatal accidents and fatalities.

- In 2002, with respect to the road safety record, there was a 3.4 per cent increase in casualty collisions from 2001. There was also an increase in road-related fatalities (from 2,781 to 2,936) and a three per cent increase in road-related injuries.
- Annually, there are approximately 30 million shipments involving dangerous goods. In 2003, almost all these shipments arrived without incident at their destination, with the exception of 358 occurrences. Of this number, only two were caused by the dangerous good itself. The majority of deaths and injuries are caused by the accident (e.g., a collision) rather than contact with the dangerous good.
- During 2003, public confidence in the security of the transportation system continued to increase. Working with government, industry and other stakeholders, Transport Canada introduced new security initiatives in all modes and continued to implement security enhancements announced in 2001.
- In 2003, Transport Canada, in collaboration with the Canadian Air Transport Security Authority (CATSA) and other stakeholders, strengthened Canada's aviation security in a number of areas, including: implementing security regulations and updating the standards for screening passengers and training screeners; developing technical requirements for enhancing the restricted area pass system for airport employees; and, developing tools to measure the performance of advanced explosives detection system equipment.
- Progress was achieved on the adoption and implementation of the International Ship and Port Facility Security Code with the development of guidelines for ship and port facility security assessments and plans, consultations on the development of the regulatory framework, and the development of an oversight, compliance and enforcement program.
- In the area of rail security, a Canada–U.S. Declaration of Principles for security and contraband threats to southbound rail processing was under development in 2003.
- The Canada–U.S. Smart Border Declaration continued to be implemented, focusing on infrastructure improvements, intelligent transportation systems and critical infrastructure protection.
- In 2003, the development of the Chemical Biological Radiological and Nuclear (CBRN) Response Initiative was focused on securing access to trained industrial emergency response teams in the event of a terrorist incident involving dangerous goods.

TRANSPORTATION AND THE ENVIRONMENT

- In 2001, 34 per cent of greenhouse gas (GHG) emissions in Canada came from the transportation sector: 77 per cent from road transportation, nine per cent from aviation, four per cent from rail and six per cent from marine.
- Between 1980 and 2002, on-road gas use remained relatively stable. It was not until 1998 that gasoline use rose to 1980 levels. Since then, gasoline use has continued to climb.
- Between 1980 and 2002, road diesel use grew by 140 per cent, a situation largely explained by the changing nature of the freight transportation industry, including the shift towards a "just-in-time" environment and the economic deregulation of transportation activities.
- Over the same period, aviation GHG emissions grew by 33 per cent.
- From 1980 to 2002, rail emissions dropped by about 15 per cent, despite traffic growth.
- Marine emissions fell by 27 per cent between 1980 and 2002.
- The transportation sector accounts for 52 per cent of total nitrogen oxides (NO_x) emissions and 21 per cent of total volatile organic compounds (VOC), the two main ingredients of smog.
- Over the last 15 years, all air pollutant emissions due to transportation have decreased.
- In 2003, Transport Canada developed *Sustainable Development Strategy 2004–2006*, which defined seven strategic challenges. The Strategy was tabled in Parliament in February 2004.
- In 2002, the Government of Canada ratified the Kyoto Protocol and through Budget 2003 provided \$2 billion to be allocated to climate change initiatives in the *Climate Change Plan for Canada*. One billion dollars of the funding was allocated in 2003, of which \$250 million was set aside for transportation measures.
- A number of key transportation measures (initiatives) benefitted from this funding, including motor vehicle fuel efficiency, advanced technology vehicles and alternative fuel options such as fuel cells, ethanol, biodiesel and natural gas. The Freight Efficiency and Technology Initiative also benefitted. It consists of three components: the Freight Sustainability Demonstration Program; voluntary agreements between the federal government and modal associations; and training and awareness for freight carriers. Transport Canada and Natural Resources Canada also co-led a new Commercial Transportation Energy Efficiency and Fuels Initiative.

- In 2003, eight of the 15 city proposals developed and evaluated under the Urban Transportation Showcase Program, a \$40 million initiative aimed at demonstrating and evaluating the impacts of integrated strategies to reduce GHG emissions from urban transportation, were selected for implementation.
- The \$3 billion infrastructure investment announced in the 2003 federal budget was identified as a further source of effort to reduce GHGs.
- In 2003, the On-Road Vehicle and Engine Emission Regulations under the *Canadian Environmental Protection Act*, 1999 and the final Off-Road Small Spark-Ignition Engine Emission Regulations were published.
- The 2003 federal budget provided \$475 million over five years to accelerate the clean-up of federal contaminated sites in Canada.
- In 2003, a number of initiatives were conducted in provinces and/or municipalities to improve the sustainability of the transportation system: the testing of a canola-oil blend "biodiesel" in a portion of the Saskatoon Transit Service and Saskatchewan Highways fleet; a grant for the design, development and testing of biodiesel fuels for Manitoba transit buses in Canadian prairie conditions; a grant to assess the implementation of alternative fuels in fleet vehicles within Manitoba's Red River Valley Region; a tax rebate program in Ontario for vehicles powered by alternative fuel; a ten-year plan to expand and review Ontario's transit infrastructure; the completion of a pilot test of using 20 per cent biodiesel blend fuels in the Société de Transport de Montréal transit buses; and the New Brunswick release of a Strategy Plan with "environmentally responsible and proactive" as one of its nine key strategic objectives.
- Class I railways consumed 1.8 billion litres of fuel in 2002, compared with 1.9 in 1990.
- CN reported a 2.0 per cent increase in tonne-kilometres moved in 2002 over 2001, while CPR's output declined by 3.3 per cent.
- In 2003, rail car loadings decreased slightly to 259.8 million tonnes. In Western Canada, there was a two per cent drop, while Eastern Canada increased by one per cent.
- Shipments of coal and coke dropped 14 per cent in 2003, chemicals four per cent to 14.4 million tonnes, iron ore 14 per cent to 31.7 million tonnes and forest products four per cent to 42.6 million tonnes. Meanwhile, 2003 shipments of grain, total forest products, fertilizer materials and automotive products increased.
- Export rail tonnage increased 6.4 per cent in 2003 to reach 69.9 million tonnes, with forest products, chemicals and fertilizer materials being the largest contributors to such traffic. The largest share of rail export volume to the United States originated in Ontario (28 per cent).
- In 2003, there was a slight increase in import rail tonnage to 20.5 million tonnes. Chemicals, agricultural and food products, grains and metals accounted for 59 per cent of total import volume. Automotive imports remained the top commodity. Ontario was the leader in terms of rail import volumes, accounting for 53 per cent of the total.
- Fort Frances and Sarnia, both in Ontario, accounted for 19.7 and 16.8 per cent of rail exported trade, respectively, with forest products, fertilizer materials and chemicals the major commodities exported at these border crossings. In value terms, the leading border crossing points were Sarnia and Windsor, with automotive products topping the commodities exported through these locations.
- Class I railways moved 82 million tonnes of goods to and from Canadian ports in 2002, 11 per cent less than in 2001.
- British Columbia, Alberta and Saskatchewan remained the main originating source of rail-marine exports in 2002 despite declines over the previous year. Coal and grain exports both declined, but fertilizer exports increased. Rail-marine imports increased slightly in 2002, and Quebec and Ontario remained the two major destinations for such traffic.

RAIL TRANSPORTATION

- No track was discontinued in 2003 and only a small amount of track was transferred.
- Track and facilities in Quebec owned by Canadian American and Quebec Southern Railway were transferred to the Montreal, Maine & Atlantic Railway. Canadian National (CN) transferred track in Saskatchewan to a railway called Prairie Alliance for the Future.
- Of total rail revenues in 2002, 88.5 per cent were generated by CN, Canadian Pacific Railway (CPR) and VIA Rail.

- Intercity rail passenger traffic increased by 1.7 per cent in 2002. VIA Rail reported a slightly greater increase of three per cent.
- The productivity of rail freight carriers increased by 2.4 per cent in 2002.
- VIA Rail's productivity declined by 1.2 per cent in 2002.

ROAD TRANSPORTATION

- In 2003, the *Motor Vehicle Transport Act* (MVTA) was amended.
- Revisions to federal regulations on the hours of service rules for commercial vehicle drivers (bus and truck) and Motor Carrier Safety Fitness Certificate Regulations were published in 2003 in the *Canada Gazette* Part I.
- In 2003, British Columbia was the only jurisdiction to report administrative changes to existing bus regulations.
- The U.S. government introduced new border security measures in 2003 for the prior notification requirements on food shipments, and also announced the timeframe for advanced notification requirements for all cargo shipments.
- Heavy trucks and cars crossing the Canada–U.S. border decreased again in 2003.
- TransForce Income Fund topped the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.
- Trucking firms carrying general freight accounted for 62 per cent of total revenues of large for-hire trucking firms in 2002, while the share of specialized trucking firms decreased marginally.
- According to the 2002 Canadian Vehicle Survey, there are 17.3 million (in scope) light vehicles (i.e. gross weight less than 4,500 kilograms) in Canada, including 10.4 million passenger cars and station wagons, 2.5 million vehicles listed as vans, three million pickup trucks and 1.3 million sport-utility vehicles (SUVs).
- Vans, SUVs and light trucks accounted for 42 per cent of vehicle-kilometres in 2002. They were driven on average more than cars and station wagons (18,100 kilometres versus 15,800 kilometres) and had a marginally higher vehicle occupancy ratio (1.65 persons).
- There was an average of 550 vehicles per 1,000 people in Canada in 2002.
- According to the Canadian Vehicle Survey, there were 580,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 315,000 were medium-sized weighing between 4,500 and 15,000 kilograms. Almost 268,000 were Class 8 (heavy) trucks weighing more than 15,000 kilograms.
- Ontario (38 per cent), Alberta (24 per cent) and Quebec (13 per cent) accounted for 75 per cent of the heavy truck fleet.
- Heavy trucks accounted for 18 billion vehicle-kilometres in 2002, compared with fewer than 5.5 billion for medium-sized trucks.
- Empty haul movements accounted for 16 per cent of heavy truck vehicle-kilometres, compared with about eight per cent for medium-sized trucks in 2002.
- In 2002, domestic and transborder for-hire truck traffic by Canadian firms generated revenues of \$8.3 billion and \$7.3 billion, respectively, with six groups of commodities accounting for 81 per cent of these revenues: manufactured products, food products, forest products, metal and steel products, automobile/transport products and plastic/chemical products.
- Ontario dominated with 36 per cent of intraprovincial trucking traffic, 33 per cent of interprovincial trucking traffic and 44 per cent of total transborder traffic hauled by trucks. The heaviest traffic flows were between Ontario and the U.S. central region and Ontario and the U.S. southern region, with 18.4 billion tonne-kilometres and 11.4 billion tonne-kilometres, respectively.
- Total factor productivity in the trucking industry fell by 1.8 per cent in 2002.
- Because prices increased on average more than unit costs, the industry's average operating ratio improved in 2002.
- The revenues of urban transit operators increased by seven per cent in 2002. Prices increased by 2.9 per cent and output grew by 2.5 per cent.
- Productivity declined by 3.7 per cent and transit costs per unit of output increased by 4.5 per cent in 2002.

MARINE TRANSPORTATION

- Canada brought into force in 2003 new limits per oil spill incidents from tankers as part of the International Convention on Civil Liability for Bunker Oil Pollution Damage and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage agreed to by the International Maritime Organization.
- In 2003, the International Maritime Organization adopted a Protocol establishing a Supplementary Fund that provides a third layer of compensation for claimants of oil pollution damages.
- The report reviewing the *Canada Marine Act* was released in 2003.

- By year-end, 99 regional/local and remote ports and port facilities remained under Transport Canada's control.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached \$279 million in 2002, up \$13 million from 2001, compared with a decrease of \$6.7 million in expenditures. Vancouver and Sept-Îles reported the largest increases in revenues. Net income of CPA ports decreased by \$3.7 million in 2002.
- Tonnage handled at CPA ports dropped from 219.9 million tonnes in 2001 to 215.1 million tonnes in 2002. Vancouver (29 per cent), Saint John (12 per cent), Sept-Îles (nine per cent), Montreal (nine per cent) and Quebec City (eight per cent) combined accounted for 67 per cent of total cargo handled by CPAs.
- In 2002, CPAs handled 52.7 per cent of total port traffic.
- At the end of 2003, of the total number of fishing harbours, 670 were managed by harbour authorities and 353 were small craft harbours managed by Fisheries and Oceans Canada.
- In 2003, of the four pilotage authorities, only the Great Lakes Pilotage Authority generated a net loss.
- The Canadian Coast Guard is developing an Automatic Identification System that will allow it to improve the surveillance of vessels with "near real-time" identification and tracking of vessels approaching and operating in Canadian waters.
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 40.87 million tonnes of traffic in the 2003 season, 1.3 per cent less than in 2002.
- Ferry services carried approximately 39 million passengers and 15.4 million vehicles in 2003.
- International cruise ship traffic in 2003 decreased for the first time in 21 years. It also decreased at the ports of Montreal, Quebec City and Saint John, but increased at Halifax.
- Domestic cargo loaded and unloaded at Canadian ports increased to 62.6 million tonnes in 2002, a 1.35 per cent increase from 2001.
- A total of 282.7 million tonnes of international cargo was handled at Canadian ports, compared with 286.9 million tonnes in 2001. Of that total, 114.3 million tonnes were related to Canada's marine traffic to and from the United States, up slightly from 2001, while 168.4 million tonnes had to do with Canada's marine trade with overseas countries (excluding the United States).

- The value of Canadian international marine trade in 2002 was \$103.2 billion, excluding shipments via U.S. ports.

AIR TRANSPORTATION

- Air Canada filed for court protection under the *Companies' Creditors Arrangement Act* (CCAA) on April 1, 2003, and Air Canada's Board of Directors accepted new equity of \$650 million from Trinity Investments to support its emergence from CCAA protection.
- In March 2003, the World Health Organization issued a worldwide advisory for countries like Canada with confirmed cases of severe acute respiratory syndrome (SARS). Six special health screening measures were put in place at six Canadian airports: Toronto, Vancouver, Ottawa, Calgary, Dorval (Trudeau) and Mirabel.
- The Air Travel Complaints Commissioner issued two reports in 2003 covering the year 2002. Although the number of complaints continued to decline, industry difficulties, declining revenues and rising costs led to settlements requiring difficult negotiations to reach acceptable solutions.
- A comprehensive review of the federal government rent policy for leased airports in the National Airports System (NAS) was conducted with the assistance of independent financial experts and independently of the development of a proposed *Canada Airports Act*.
- In 2003, a review of the space occupied by federal departments and agencies at key NAS airports was launched.
- A study was started to look at the financial viability of regional and small airports transferred since the introduction of the National Airports Policy.
- Amendments to regulations of the computer reservation systems were proposed on October 25, 2003, and published in the *Canada Gazette*.
- The Air Travellers Security Charge, introduced to fund the costs of the enhanced air travel security system put in place in response to the September 11, 2001, terrorist attacks, was reduced on March 1, 2003, for air travel within Canada from \$24 to \$14 for round-trip travel.
- The national implementation of the Electronic Collection and Dissemination of Air Transportation Statistics initiative began on April 1, 2003, to permit the electronic collection of all operational air transportation statistics from approximately 170 domestic, U.S. and other international air carriers serving airports in Canada.

- Since September 22, 2001, when international insurers withdrew their previous level of coverage, the federal government has been providing short-term indemnification for third-party war and terrorism liabilities, renewable for periods of 90 days.
- A new Canada–U.S. Air Transport Preclearance Agreement was brought into force on May 2, 2003, formalizing in-transit preclearance at Vancouver airport and allowing for its introduction at Calgary, Montreal and Toronto airports.
- Several new designations were announced by the Minister of Transport in 2003 as part of the new multiple designation policy allowing all carriers to operate scheduled international air services to any air market, regardless of size: Air Canada (Cuba), Air Transat (Dominican Republic and Mexico), HMY Airways (Mexico), Skyservice Airlines (Dominican Republic and the United Kingdom) and Zoom Airlines (Dominican Republic, Mexico and the United Kingdom).
- Canada participated in negotiations or consultations in relation to international air services with seven countries in 2003: Vietnam, France, Russia, Luxembourg, Israel, Singapore and Chile.
- In 2003, the Airports Capital Assistance Program funded 43 projects at 31 airports related to safety, asset protection and operating cost reduction.
- Despite the decline in passenger traffic in 2002, total revenues of the nine largest NAS airports increased by six per cent.
- Air Canada, with its subsidiaries, remained Canada's largest airline in 2003, with \$8.2 billion in revenues between October 1, 2002, and September 30, 2003, and serving 62 points in Canada, 49 in the United States and 43 international destinations in 30 countries. It has three wholly owned subsidiaries: Air Canada Jazz, Zip Air and Air Canada Vacations. It offers premium charter services to sport teams and businesses under Jetz. Four independent local service operators offered regional services on behalf of Air Canada: Air Creebec, Air Georgian, Air Labrador and Central Mountain Air.
- Low-cost, no-frills carriers offering domestic and transborder services in 2003 included WestJet, CanJet and Jetsgo.
- Canadian charter airlines providing services both domestically and internationally in 2003 included Air Transat, Skyservice Airlines, HMY Airways and Zoom Airlines.
- Airlines providing year-round scheduled and charter services across northern Canada included First Air, Canadian North and Air North. Aklak Air, Kenn Borek Air and North-Wright Airways complement the other airlines by offering flights to the most remote communities in the Arctic.
- Twelve U.S. airlines served 18 Canadian cities, and 36 foreign airlines provided services from Canada to 47 international destinations in 34 countries.
- A number of all-cargo airlines provided jet services in 2003 on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers: All-Canada Express, Cargojet Canada, Kelowna Flightcraft and Morningstar Air Express.
- At the end of 2003, more than 2,300 airline licences were active, an indicator of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2003, mainly as a result of fractional ownership.
- In 2002, the total revenues generated by the air transport industry dropped by 3.5 per cent for the second consecutive year.
- Productivity stayed the same in 2002 and factor prices increased by 2.8 per cent. WestJet and Air Transat reported increased profits.
- Canada's air trade with countries other than the United States stayed essentially the same in 2003 as in 2002, with a surge in exports being offset by a decrease in imports. Since the year 2000, the air cargo trade between Canada and the United States has been declining, a drop which has been more significant on the import side.
- In 2002, the number of tonnes carried by Canadian air carriers remained basically the same as in 2001, with five per cent growth in international markets and an 11 per cent decrease in air cargo to the United States.
- Air passenger traffic fell by two per cent in 2003 to 54 million passengers. Transborder traffic was the most affected market with a four per cent decrease.

Using the most current information available, the state of transportation in Canada is presented in the 2003 Annual Report.

The *Canada Transportation Act* (1996) places a statutory responsibility on the Minister of Transport to table each year an annual report on the state of transportation in Canada. Section 52 of the Act delimits the mandate and the nature of the responsibility associated with the annual report requirements:

"Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

- (a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;
- (b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expenses;
- (c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and
- (d) any other transportation matters the Minister considers appropriate."

The 2003 annual report is the eighth submitted by the Minister since the *Canada Transportation Act* came into force. Using the most current data and information available, this report presents an overview of transportation in Canada. Because the most recent year for which data were available was used, it is not always 2003 data that are reported. The scope covered by the report is not limited to federal transportation responsibilities. The report therefore provides a unique comprehensiveness despite its limited coverage of urban and intermodal transportation matters.

In recent years, the report has been complemented by an Addendum posted on Transport Canada's Web site. The Addendum provides more detailed information on subject matters covered in the overview of transportation in Canada. Since the 2002 Annual Report, the scope of the report's coverage was maintained but the use of the Addendum was extended, allowing for a more succinct review of the state of transportation in Canada. Readers interested in more detailed and/or time-series information are invited again this year to consult the Addendum on Transport Canada's Web site at www.tc.gc.ca. Individual references to the Addendum are found either in the text itself or in footnotes to the text or to tables and figures. Information contained in tables or used to produce figures in last year's report are either updated in this year's report or found in tables in the Addendum. In addition, annual reports from 2000 onward are easily accessible at www.tc.gc.ca. Earlier reports can be made available upon request.

Transportation is everywhere in the lives of Canadians. Transportation opens markets to natural resources, agricultural products and manufactured goods, and it supports service industries. It alleviates the challenges delimited by topography. It also links communities and reduces the effects of distances between people. These essential roles of transportation are indicative of its intertwined and interdependent relationships with the economic and social fabrics of our society. Like society, transportation needs do evolve over time as circumstances and conditions change.

Whether at the regional or at the sectoral level, fluctuations in economic activities affect transportation demand. This is because the demand for transportation services emanates from the needs coming from all sectors of the economy. Transportation demand is a derived demand. Therefore, to review the state of transportation, it is necessary to begin by reviewing the performance of the Canadian economy (Chapter 2). Detailed information related to employment, trade and tourism, as well as transportation energy consumption, can be found in the Addendum.

Chapter 3 presents the most recent information on government transportation spending and revenues. In doing so, it addresses the Section 52 (b) requirement related to the statutory mandate for the annual report. Some of the government transportation spending is directed at specific assets of the transportation system infrastructure. The private sector also makes expenditures on and investments in Canada's transportation system, but these are not covered in this chapter. The reader must keep in mind that the public sector does not plan or fully control all such expenditures and investments.

Chapter 4 reviews safety and security in the transportation system. A safe transportation system remains a fundamental priority for Canada. This chapter provides an up-to-date overview of the most recent accidents and incidents statistics by mode. It also reviews the more recent enhancements to security in light of the increased emphasis placed on security since the events of September 11, 2001.

Chapter 5 reviews environmental trends in transportation and the environment, devoting special attention to climate change and to air pollutants emissions associated with urban transportation activities. With Canada's commitment to the Kyoto Protocol and to the United Nation's Framework Convention on Climate Change, this chapter presents an overview of the initial elements of Canada's proposed response to climate change. The chapter also reviews the other environmental challenges associated with transportation activities more specifically related to air quality and water pollution. It presents an overview of provincial/municipal sustainable transportation initiatives.

Chapters 6 to 9 give the most recent information on transportation according to the different modes of transportation. For rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9), the coverage is structured as special events in 2003, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation is regrouped in Chapter 7, with coverage of the same subject matters as found in the other three modal chapters.

Most of the data used and presented in this report or in the Addendum came from sources external to Transport Canada. The onus for data validation rests with the external sources. Proper care and attention to data quality and limitations was devoted to the production of this report, and footnotes are used where issues needed to be flagged. Within the constraints of the statutory deadlines under which the report was produced, serious attempts to address data-related issues were made. When data accuracy was confirmed by the relevant source(s), the challenge to data quality was stopped. This report does not attempt to circumvent data limitations by estimating, nor does it attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY

2

The Canadian economy slowed down in 2003.

CANADIAN ECONOMIC PERFORMANCE

After strong growth in 2002, the Canadian economy slowed down considerably in 2003 as real growth in gross domestic product (GDP) at market prices increased by only 1.7 per cent, a rate about half that of the previous year. While consumer spending remained strong and business investment rebounded, the economy was affected by several factors that weakened exports. The year started strongly with quarterly growth of 2.5 per cent at annual rates. The economy weakened in the second quarter, however, as growth dipped by 1.0 per cent, largely due to the effects of the outbreak of severe acute respiratory syndrome (SARS), the mad cow disease scare and the appreciating Canadian dollar. Through the rest of the year, the economy edged up with moderate growth, although the power outage in Ontario and the northeast United States reduced output in August and the continuing rise in the value of the Canadian dollar hampered exporters' ability to profit from the U.S. economic recovery.

Consumer expenditures increased 3.3 per cent in real terms in 2003, once again providing solid support for the economy. Low interest rates and good employment growth were behind this increase. Sales of new vehicles were 6.4 per cent lower than in 2002 but still the second highest level ever reached. In 2003, 217,800 new housing units were started, the highest level since 1988. Although residential construction grew 7.5 per cent, it was only half the growth rate of 2002. Investment in machinery and equipment rose 5.0 per cent, a reversal of the previous two years of declines. Government spending on goods and services rose 3.0 per cent and investment by government rose 5.8 per cent. The main weakness in the economy was the trade sector, where exports of goods and services dropped 2.1 per cent, while imports rose 4.0 per cent.

Table 2-1 presents general economic indicators in Canada for 2003.

TABLE 2-1: GENERAL ECONOMIC INDICATORS, 2003

	2003	Percentage change 2002 – 2003	Annual percentage change 1997 – 2002
GDP at Basic Prices (Millions of constant 1997 dollars)			
Total Economy	1,012,891	2.1	4.0
Goods	316,129	1.8	3.1
Forestry	5,990	3.5	0.8
Mining	35,573	4.4	0.1
Manufacturing	177,007	(0.2)	4.5
Construction	54,727	4.3	4.1
Services	696,762	2.2	4.4
Retail trade	56,665	2.2	5.6
Transportation and warehousing	458,002	(0.2)	2.6
Merchandise Trade (Millions of dollars)			
Exports	401,527	(3.1)	6.4
Imports	341,317	(4.2)	5.1
Income (Dollars)			
Personal Disposable Income per capita	22,694	1.9	4.0
Canadian Dollar (US cents per unit)			
	71.4	12.1	(2.5)
Employment (Thousands)	15,746	2.2	2.3
Population (Thousands)	31,630	0.9	1.0
Prices			
Total Economy (1997 = 100)	111.2	3.4	1.5
Transportation	141.4	5.2	2.1

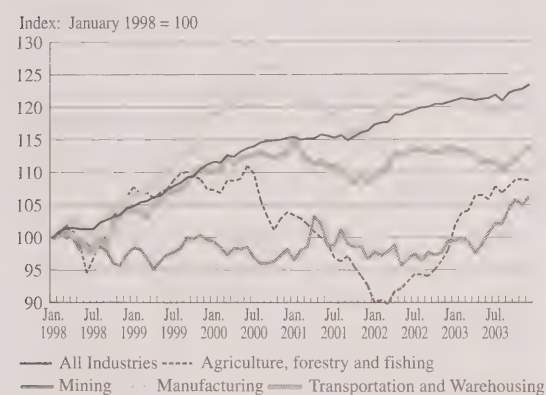
Source: Statistics Canada Cat. No. 11-010, 13-001, 15-001,62-010; Bank of Canada

GDP at basic prices by industry grew by 2.1 per cent in real terms in 2003. Output in the goods-producing industries grew 1.8 per cent, while output in the service industries grew 2.2 per cent. The main weakness on the goods side was manufacturing, which saw its output fall 0.2 per cent; this decrease reflected the adverse impact that the rise of the Canadian dollar had on trade. The construction sector was strong, as its output grew 4.3 per cent. The mining industry was also strong, reflecting good mineral prices and the development of diamond mines.

The agriculture sector jumped 22.1 per cent as it recovered from three years of declines. In spite of the softwood lumber dispute and the forest fires in British Columbia, the forestry industry experienced modest growth thanks to increased lumber exports and prices in the latter part of the year. On the service industry side, retail trade industry grew 2.2 per cent as consumer purchases continued. The SARS outbreak affected the demand for tourism services. Transportation and warehousing output fell slightly, by 0.2 per cent, reflecting the drop in manufacturing activity.

Figure 2-1 charts the changes in real GDP since 1998.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 1998 – 2003



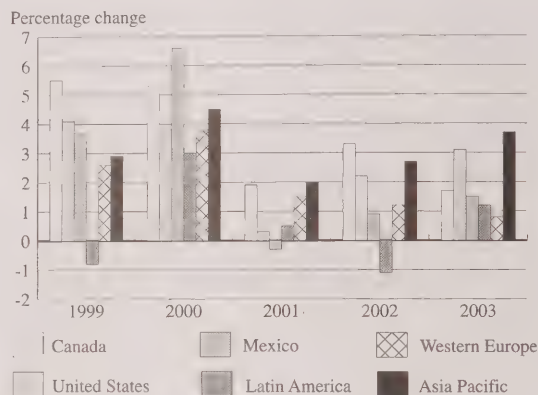
Source: Statistics Canada Cat. No. 15-001

The global economy has started to recover from the slowdown of recent years. In 2003, for the second year in a row, the world economy increased its rate of economic growth, registering a 2.4 per cent real increase. This was up from 2.0 per cent in 2002 and 1.4 per cent in 2000. The United States started to show signs of recovery, as it responded to monetary and fiscal stimuli. U.S. real GDP grew 3.1 per cent, up from 2.2 per cent in 2002. As in Canada, American consumers continued to spend and businesses increased their investment, while government spending was strong and exports also increased. Mexico's economy grew 1.5 per cent in 2003, up from the 0.9 per cent increase the previous year, and is linked to U.S. economic recovery. Economic growth in Latin America moved into positive territory: although Brazil was in recession, other countries such as Argentina had strong growth. Western Europe experienced growth of less than one per cent in 2003, as it felt the effects of the appreciating Euro on its exports. The two largest economies, Germany and France, experienced no real growth, while the United Kingdom grew only 2.0 per cent. The Asia-Pacific region grew 3.7 per cent, the highest

growth rate of regions despite the negative impact of SARS. Japan, the second largest economy in the world, had real growth of 2.5 per cent after two years of almost zero growth. The Chinese economy grew 7.7 per cent in 2003.

Figure 2-2 compares the economies and other regions of the world from 1999 to 2003.

FIGURE 2-2: REAL GDP: CANADA AND OTHER REGIONS, 1999 – 2003



Note: GDP at market prices.

Source: Global Insight, Statistics Canada Cat. 13-010, U.S. Bureau of Economic Analysis

In 2003, merchandise exports fell by 3.1 per cent, while imports fell by 4.2 per cent. This resulted in an increase in the trade surplus of \$2.3 billion. Exports to the United States and Japan fell 4.6 and 3.8 per cent, respectively, but exports to the European Union rose 6.2 per cent. Imports from these three major trading partners fell.

The value of the Canadian dollar against the U.S. dollar rose steeply during most of 2003, from its low of US\$.635 on the first trading day to a high of US\$.773 at the end of December. The average value of the Canadian dollar against the U.S. dollar rose 12.1 per cent from its 2002 value. This appreciation of the Canadian dollar was due to a general fall in the value of the U.S. dollar.

General prices in the total economy as measured by the GDP deflator rose 3.4 per cent in 2003, compared with a 0.9 per cent increase in 2002. The average all-items Consumer Price Index (CPI) rose 2.8 per cent, compared with 2.2 per cent the year before. Consumers paid on average 7.9 per cent more for energy in 2003 than in 2002. Transportation prices rose 5.2 per cent, as vehicle insurance premiums rose 8.4 per cent during the year.

While disposable income per capita rose 1.9 per cent in 2003, it rose only 0.2 per cent in real terms. These increases compare with 2002 increases of 3.5 per cent in nominal terms and 1.6 per cent in real terms.

In 2003, the average number of persons employed rose to 15,746,000, a 2.2 per cent annual increase for the second year in a row. The mid-year population of Canada rose to 31.6 million, a 0.9 per cent increase, but a drop from the 1.1 per cent increase of the previous two years.

PROVINCIAL ECONOMIC PERFORMANCE

In 2003, all provinces other than Saskatchewan and Alberta had lower growth rates than in 2002. The SARS outbreak and the strong dollar dampened economic activity right across the country. As in 2002, Newfoundland and Labrador had the highest GDP growth rate among the provinces, due to oil production and significant construction. Tourism suffered in Prince Edward Island but construction activity was strong. In Nova Scotia, the primary sector declined due to a weak fishery and low natural gas production; housing construction was strong but manufacturing was weak. In New Brunswick, manufacturing expanded due to gasoline shipments, and non-residential construction investment rose sharply as it benefitted from energy development and highway improvements. Both Ontario and Quebec were hard hit by the appreciation of the Canadian dollar, which affected export demand for manufacturing output. In both provinces, there was a housing construction boom. Double-digit growth in agriculture provided strength to the economies in both Manitoba and Saskatchewan. Alberta continued to attract people with jobs, resulting in a strong demand for retail and wholesale services. The Canadian beef industry, 70 per cent of which is in Alberta, was severely affected by the discovery of a case of mad cow disease. Weak economic performance in British Columbia resulted from the effect of the appreciating dollar as well as the impact of the Canada-U.S. softwood lumber dispute and the large forest fires on the forestry sector. Asian tourism traffic was reduced by SARS. Economic growth in the territories was buoyed by the development of diamond mining.

Table 2-2 shows provincial economic growth in 2002/03.

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2002/03

(GDP at basic prices in 1997 dollars)

	<i>Percentage Change 2002/03¹</i>	<i>Percentage Change 1997/02</i>
Newfoundland and Labrador	5.9	6.1
Prince Edward Island	3.3	3.6
Nova Scotia	2.5	4.2
New Brunswick	2.6	3.8
Quebec	1.7	4.2
Ontario	1.6	4.7
Manitoba	2.1	3.0
Saskatchewan	5.4	0.9
Alberta	3.3	3.6
British Columbia	1.4	2.5
Territories	15.3	5.4

1 Forecast.

Source: Statistics Canada, Conference Board of Canada

INTERNATIONAL TRADE¹ AND TRADE FLOWS

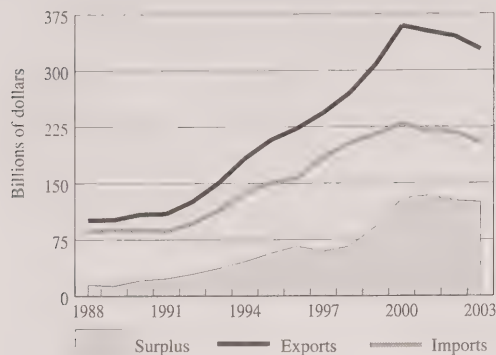
By the end of 2003, Canada's trade surplus with the rest of the world had fallen to its lowest level since 1999, as both exports and imports of merchandise decreased.

TRADE WITH THE UNITED STATES

In 2003, the United States was once again Canada's most important trading partner by far. It captured almost 75 per cent of the value of Canada's total trade with the world. In 1988, this figure was 69 per cent. More than 86 per cent of Canada's total exports were to the United States. In 1988, this figure was 73 per cent. By contrast, Canada's imports from the United States oscillated between 64 and 68 per cent of total imports during the 1988 – 1998 period before reaching a low of 61 per cent in 2003. As a result, Canada's annual trade surplus with the United States has enjoyed an annual average growth of 15 per cent since 1988.

Figure 2-3 tracks the value of trade with the United States from 1988 to 2003.

1 Customs-based trade statistics are being used in the present report as detailed information on commodity, modes of transport and geographic region is presented on a Customs basis only.

FIGURE 2-3: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1988 – 2003

Note: Customs-based trade data. Preliminary data for 2003.

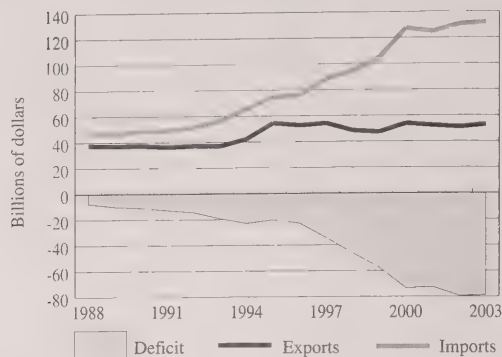
Source: Transport Canada, adapted from Statistics Canada, International Trade Database

After peaking at \$589 billion in 2000, Canada's trade with the United States totalled \$531 billion in 2003. In terms of value, trucks carried 63 per cent of this trade, followed by rail (17 per cent), pipeline (10 per cent), air (six per cent) and marine (three per cent). Trucking was the dominant mode for both exports (53 per cent) and imports (80 per cent). By volume, pipelines ranked first, at 33 per cent (mainly in exports), followed by trucks (28 per cent), marine (20 per cent) and rail (19 per cent).

The most important trade flows between Canada and the United States involved Ontario and the U.S. Central Region,² which totalled \$169 billion. This included \$94 billion from and to Michigan alone. Four of the top six Canada–U.S. trade flows involved Ontario. Almost 78 per cent of the Canada–U.S. trade carried by trucks (value) was concentrated at six border crossing points: Windsor/Ambassador Bridge, Fort Erie, Sarnia and Lansdowne in Ontario, Lacolle in Quebec and Pacific Highway in British Columbia.

TRADE WITH OTHER COUNTRIES

In 2003, Canada's trade with other countries totalled \$185 billion, driven by imports valued at \$132 billion. This trade has registered deficits since 1988, as imports from other countries generally exceeded Canada's exports to these countries. As Figure 2-4 shows, trade deficits have grown at an annual average rate of 17 per cent since 1988.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND OTHER COUNTRIES, 1988 – 2003

Note: Customs-based trade data. Preliminary data for 2003.

Source: Transport Canada, adapted from Statistics Canada, International Trade Database

In terms of value as of volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with overseas countries. In 2003, six trade flows accounted for almost 75 per cent of Canada's total trade with countries other than the United States. Four of these were two-way flows between eastern provinces and West Europe (\$15 billion in exports, \$40 billion in imports) and between western provinces and the Asian countries (\$13 billion in exports, \$18 billion in imports). The other two-way flows were import-oriented, moving to eastern provinces from the Asian countries (\$34 billion) and Latin American countries (\$17 billion), mainly Mexico.

For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

2 The U.S. Central Region includes states bordering the Great Lakes area (i.e. Michigan, Ohio, Indiana, Illinois, Wisconsin) as well as Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

TOURISM

In 2002, tourism expenditures in Canada totalled \$51.8 billion, up 0.3 per cent from 2001, as spending by Canadians rose 1.8 per cent while spending by foreigners fell 2.6 per cent. Tourism expenditures on transportation were \$19.9 billion, up 0.8 per cent despite a 1.7 per cent drop in expenditures on air travel. In the first nine months of 2003, total tourism expenditures were \$38.3 billion, down 0.9 per cent from the same period in 2002. This decrease reflects the impact of the SARS outbreak.

Domestic travel³ increased 3.2 per cent in 2002 over 2001, as 187.8 million trips were taken in Canada. Same-day travel by automobile, which accounted for 47.9 per cent of total domestic travel, fell 1.9 per cent, while overnight travel by automobile, which accounted for another 44.8 per cent, increased 10.4 per cent. Travel by air decreased, both same-day and overnight. Same-day intraprovincial travel fell, while overnight intraprovincial as well as both same-day and overnight interprovincial travel increased.

As Table 2-3 shows, international travel, both to and from Canada, fell 7.1 per cent in 2003, similar to the 6.9 per cent decrease of 2002. Trips by Canadians to the United States were almost unchanged, as same-day trips by automobile were flat and overnight automobile trips fell 2.6 per cent. Trips by Canadians to countries other than the United States rose 8.4 per cent. Trips by non-residents to Canada fell 13.3 per cent, as trips by residents of both the U.S. and other countries fell by similar percentages. For more details on tourist travel, see tables A2-10 to A2-20 in the Addendum.

TABLE 2-3: INTERNATIONAL TRAVEL, 2003

	2003	Percentage change from 2002
Trips by Canadians	39,224,830	0.0
To United States	34,151,233	(1.2)
Automobile	28,358,326	(0.7)
Same-day	20,863,577	0.0
Overnight	7,494,749	(2.6)
To all other countries	5,073,597	8.4
Trips by non-residents	38,902,631	(13.3)
By U.S. residents	35,509,444	(13.1)
Automobile	28,749,248	(14.0)
Same-day	19,629,552	(14.0)
Overnight	9,119,696	(14.0)
Trips by all other non-residents	3,393,187	(15.6)
Total international trips	78,127,461	(7.1)

Source: Statistics Canada cat. No. 66-001

EMPLOYMENT

There were an estimated 830,000 people employed in the transportation sector in 2003. This figure had to be estimated because the information on employment for some modes of transportation was not available. Employment in the air transport services increased to 79,600 in 2003. This was the first increase since 2000, when it totalled 86,000. Estimates for rail services predicted a continued decline in 2003, with employment falling to 37,300 from 39,500 in 2001. Following increased expenditures by government, employment in highway construction and maintenance rose in the past two years to reach an estimated 76,300 in 2003.

For detailed information on employment and salaries in the transportation sector, see tables A2-21 to A2-45 in the Addendum.

ENERGY CONSUMPTION

After the slight decline experienced in 2001, total domestic energy consumption rebounded in 2002, increasing by 3.4 per cent. The strongest sectors were construction (+13 per cent) and mining (+6.5 per cent). The only industries to witness declines in energy consumption were forestry (-6.2 per cent) and agriculture (-5.7 per cent). Energy use by the transportation sector, which still accounts for 34 per cent of total consumption, increased by 1.7 per cent after two consecutive years of decline.

The pipeline and aviation industries both experienced growth of 5.2 per cent for the year, while road energy use increased by 2.2 per cent. At the other end of the spectrum, the rail and marine industries saw their energy use decline by 9.3 and 10.2 per cent, respectively. For detailed information on energy usage in the transportation sector, see tables A2-46 to A2-53 in the Addendum.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

After a period of robust annual productivity growth in the first half of the 1990s, productivity increases in selected transport industries (rail, air and trucking) slowed during the second half of the decade to 1.6 per cent per year. Productivity growth in 2002 was marginal.

3 Domestic travel refers to trips at least 80 kilometres from a traveller's usual place of residence, excluding trips to or from work or school.

Prices⁴ charged by these industries followed productivity trends, falling in real terms in the first half of the 1990s. From 1996 to 2002, however, the prices of transport services increased annually by 1.5 per cent, a 0.2 percentage point more than in the economy. In 2002, transport prices rose by 2.7 per cent.

Due to lower transport prices and a strong trade sector in the first half of the 1990s, transport activity almost doubled the growth of the economy in that period. From 1996 to 2002, transport output was outpaced by the rest of the economy. For more information on the productivity and price performance of the transportation sector, see tables A2-54 to A2-62 in the Addendum.

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

VALUE-ADDED OUTPUT OF COMMERCIAL TRANSPORTATION

Value-added estimates⁵ of output are available for transportation services that are offered on a commercial or for-hire basis. Such estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

In 2003, commercial transportation industries in Canada accounted for \$40.1 billion in 1997 dollars, or four per cent of the value-added GDP; this percentage was unchanged from 2002. The most important industry is trucking, which accounted for \$12.3 billion, or 1.2 per cent of the total output. The air and rail transportation industries accounted for \$3.7 billion (0.4 per cent) and \$5.6 billion (0.6 per cent), respectively.

Table 2-4 compares the contribution of the different modes of transportation to Canada's GDP in 2003.

TRANSPORTATION-RELATED DEMAND

In 2003, the total of all transportation expenditures for the final demand of goods accounted for 13.0 per cent of expenditures in Canada's economy. Personal expenditures on transportation were the largest part of transportation-related demand, accounting for 8.5 per cent of GDP.

TABLE 2-4: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP,¹ 2003

	Millions of constant 1997 dollars ¹	Per cent of GDP
Industries		
Air	3,722	0.4
Rail	5,630	0.6
Truck	12,261	1.2
Urban transit systems	3,095	0.3
Interurban and rural bus	209	0.0
Miscellaneous ground passenger transportation	1,853	0.2
Other transportation ²	12,108	1.2
Transportation industries	40,137	4.0

1 Gross Domestic Product at basic prices.

2 Includes scenic and sightseeing, postal and courier services as well as support activities for other modes of transportation such as baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

These expenditures grew by 1.9 per cent over 2002 levels. This growth was well below the 5.1 per cent average growth rate of the previous five years and reflects a six per cent decrease in the purchases of motor vehicles. Transportation equipment purchases, mostly motor vehicles, made up 4.0 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, made up another 3.5 per cent. Personal expenditures on commercial transportation made up 1.0 per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-63 in the Addendum.

Investment in transportation made up 2.8 per cent of the GDP in 2003. Business investment in transportation was the largest part of this, accounting for 2.3 per cent of GDP. In 2003, overall investment by business in transportation fell by 2.5 per cent, as business investment in transportation equipment decreased 4.6 per cent. Government investment was dominated by expenditures on roads, which made up 85 per cent of government investment spending on transportation and accounted for 0.5 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

Transportation exports and imports were dominated by automotive trade. In 2003, exports of automotive equipment, including parts, accounted for 7.2 per cent of the GDP, while imports accounted for 6.3 per cent. Automotive exports fell 9.4 per cent in 2003, while imports fell 5.0 per cent.

4 Prices do not include fees or taxes added to fares or tariffs and also exclude the prices of personal expenditures on cars.

5 A value-added measure of output is referred to as net output. It is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

Transportation-related domestic demand accounted for 12.8 per cent of final domestic demand in 2002. This percentage is lower than for transportation-related final demand, reflecting the importance of automotive products to Canada's external trade.

Table 2-5 breaks down transportation demand as a proportion of GDP.

TABLE 2-5: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2003

	Millions of dollars 2003	Per cent of GDP 2003	Per cent Annual Growth 2002 – 2003	Per cent Annual Growth 1997 – 2002
Personal Expenditures on Transportation	103,006	8.5	1.9	5.1
New and used transportation equipment	48,013	4.0	(1.6)	5.7
Repair and maintenance expenditures	14,148	1.2	7.4	5.7
Other motor vehicle related services	6,961	0.6	3.8	3.6
Purchased commercial transportation	11,982	1.0	(0.1)	2.1
Investment in Transportation	34,431	2.8	(1.7)	N/A
Business investment in transportation	27,801	2.3	(2.5)	N/A
Transportation infrastructure (roads and railways)	2,146	0.2	(0.2)	8.8
Transportation equipment	22,592	1.9	(4.6)	5.9
Inventories	3,063	0.3	14.6	N/A
Government investment in transportation	6,630	0.5	1.4	2.2
Transportation infrastructure (roads)	5,667	0.5	3.1	0.1
Transportation equipment	963	0.1	(7.9)	19.9
Government Spending on Transportation¹	12,980	1.1	4.5	2.1
Road maintenance	8,580	0.7	6.7	5.7
Urban transit subsidies	2,617	0.2	9.3	(0.9)
Other spending	1,783	0.1	(10.1)	(6.3)
Exports	97,959	8.1	(9.2)	6.7
Automotive products	87,941	7.2	(9.4)	6.9
Commercial transportation	10,018	0.8	(7.5)	5.2
Imports	90,843	7.5	(5.0)	5.8
Automotive products	76,357	6.3	(6.3)	6.0
Total Transport-Related Final Demand	157,533	13.0	(2.1)	N/A
Gross Domestic Product at Market Prices	1,214,601	100.0	5.2	5.5
Transportation-related domestic demand	147,675		0.9	N/A
Final Domestic Demand	1,157,613		5.0	5.2

Note: N/A = Not available.

1 2002 figures; growth rates over previous year are growth rates over 2001.

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

IMPORTANCE OF COMMERCIAL TRANSPORTATION TO PROVINCIAL/ TERRITORIAL ECONOMIES

COMMERCIAL TRANSPORTATION

Table 2-6 shows the importance of commercial transportation to provincial and territorial GDP. In 2002, commercial transportation was most important to Manitoba, where it accounted for 6.0 per cent of GDP; in Prince Edward Island, it accounted for only 2.2 per cent of GDP. Most of the commercial transportation activity took place in Ontario and Quebec, which together accounted for almost 58 per cent of the total commercial transportation measured in the GDP. Alberta and British Columbia combined accounted for 28 per cent.

TABLE 2-6: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP BY PROVINCE AND TERRITORY, 2002

	Millions of constant 1997 dollars	Per cent of Total Canadian Commercial Transportation	Per cent of Total Provincial/ Territorial GDP
Newfoundland and Labrador ¹	420.3	1.0	3.3
Prince Edward Island ¹	67.6	0.2	2.2
Nova Scotia ^{1,2}	974.3	2.4	4.3
New Brunswick ^{1,2}	954.9	2.4	5.2
Quebec	8,895.1	21.9	4.1
Ontario	14,698.1	36.2	3.5
Manitoba ¹	1,919.9	4.7	6.0
Saskatchewan	1,034.7	2.6	3.7
Alberta	5,034.6	12.4	4.1
British Columbia	6,354.3	15.7	5.4
Territories ¹	193.6	0.5	4.1

Note: GDP at basic prices.

¹ Includes warehousing.

² Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

PROVINCIAL AND TERRITORIAL PERSONAL TRANSPORTATION SPENDING

In 2002, Canadians spent \$101.1 billion on personal transportation. Of this, Ontario residents spent 40 per cent, Quebec residents 23 per cent, British Columbia residents 13 per cent and Alberta residents 11 per cent.

On a per capita basis, Yukon residents spent the most on transportation, an average of \$3,877 in 2002, while Nunavut residents spent the least, only \$1,035. In the provinces of Ontario and Alberta residents spent more than the national average of \$3,222.

On average, 15.4 per cent of total personal expenditures by Canadians in 2002 had to do with transportation. Personal transportation spending in New Brunswick accounted for 16.3 per cent of total personal spending, the highest proportion of any province or territory.

In 2002, personal expenditures on transportation represented 9.2 per cent of final domestic demand in Canada. It made up over 9.0 per cent in New Brunswick, Quebec and Ontario but only 6.9 per cent in the Yukon, 3.8 per cent in the Northwest Territories and 2.0 per cent in Nunavut.

Table 2-7 shows personal expenditures on transportation by province and territory in 2002.

TABLE 2-7: PERSONAL EXPENDITURES ON TRANSPORTATION IN THE PROVINCES AND TERRITORIES, 2002

	<i>Millions of Dollars</i>	<i>Per capita Dollars</i>	<i>Per cent of Total Provincial/ Territorial Personal Expenditures</i>	<i>Per cent of Total Canadian Personal Transportation Expenditures</i>	<i>Per cent of Provincial/ Territorial Final Domestic Demand</i>
Newfoundland and Labrador	1,390	2,677	15.2	1.4	8.0
Prince Edward Island	372	2,725	14.9	0.4	8.5
Nova Scotia	2,661	2,850	14.7	2.6	8.3
New Brunswick	2,234	2,977	16.3	2.2	9.6
Quebec	23,031	3,130	16.1	22.8	9.7
Ontario	40,480	3,346	15.4	40.1	9.4
Manitoba	3,091	2,675	13.6	3.1	8.3
Saskatchewan	2,716	2,729	13.9	2.7	8.0
Alberta	11,408	3,663	15.8	11.3	8.3
British Columbia	12,749	3,098	14.2	12.6	8.9
Yukon	117	3,877	16.0	0.12	6.9
Northwest Territories	136	3,292	13.4	0.13	3.8
Nunavut	30	1,035	7.4	0.03	2.0
Canada	101,058	3,222	15.4	100.0	9.2

Source: Statistics Canada

GOVERNMENT SPENDING ON TRANSPORTATION

3

In fiscal year 2002/03, all levels of government in Canada increased their transportation expenditures by a combined total of \$1.3 billion.

This chapter reviews transportation revenues and expenditures by level of government. It looks at federal expenses related to transportation facilities and services according to two categories: activities related to operations and those related to safety, security and policy. It also highlights federal and provincial revenues from transportation users, breaks down expenditures by level of government, and looks at consolidated federal expenditures by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

For several years, government expenditures on transportation evolved within a \$17 billion to \$19 billion range. Table 3-1 shows that transportation expenditures by all levels of government soared in 2002/03 to \$19.5 billion, an increase of \$1.2 billion or 6.2 per cent from the previous year. All levels of government contributed to the increase. While federal transport expenses in 2003/04 are expected to increase marginally, non-tax revenues from transport users should decline by 4.5 per cent. Combined provincial/territorial and local expenditures increased by \$1.0 billion, or 6.2 per cent, in 2002/03. Over the last four years, transportation expenditures by provincial governments have declined by \$756 million. Local governments more than made up for this reduction by increasing their spending by \$1.4 billion since 1999/2000.

TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES ON TRANSPORTATION

	(Millions of dollars)				
	1999/ 2000	2000/01	2001/02	2002/03	2003/04 ⁶
Transport Canada expenses (Gross) ¹	1,252	1,233	1,529	1,352	1,412
Other federal expenses (Gross)	740	777	783	1,165	1,253
Provincial/Territorial ²	8,861	7,476	7,671	8,105	N/A
Local ³	7,466	8,477	8,254	8,868	N/A
Total gross transport expenditures	18,319	17,961	18,283	19,491	2,724
Gross expenditures per capita	599	586	580	619	0
Transport Canada revenues	386	352	371	423	358
Other federal revenues ⁴	46	45	44	470	424
Specific tax revenues from transport users ⁵	13,335	13,214	13,309	13,979	N/A

Note: N/A= Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

- 1 Excludes transfers of \$22 million to Crown corporations not involved in transport in the last two fiscal years and expenses by CATSA included in other federal expenses
- 2 Net of federal transfers as reported by the provinces.
- 3 Calendar year basis; net of federal and provincial transfers. Revisions of more than \$1 billion in 2001/02.
- 4 Revenues from Coast Guard services, small port users and the airport security charges.
- 5 Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.
- 6 Planned and/or actual expenditures.

Source: *Main Estimates of the Government of Canada; Transport Canada, Finance Directorate, The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial departments of transportation; Statistics Canada Public Institutions Division, Unpublished data*

Fees and tax revenues collected by all governments from transport users reached \$14.9 billion in 2002/03, up 7.7 per cent over the previous year.

FEDERAL EXPENSES RELATED TO TRANSPORT FACILITIES AND SERVICES

The Government of Canada operates roads and bridges, airports, harbour/ports and marine navigational and rescue services (Coast Guard). It also provides modal safety, security and policy services. Transport Canada performs several multimodal activities, ranging from security and emergency preparedness services to

the regulation and monitoring of the transport of dangerous goods. Table 3-2 shows that total direct federal transport expenses are forecast to reach \$1.9 billion in 2003/04, 6.1 per cent more than the previous year. While these expenses declined throughout much of the 1990s, they have risen by 38 per cent since 1999/2000.

These activities can be divided into two broad categories: activities related to operations; and safety, security and policy activities. Expenses related to operations declined in 2003/04 by 1.1 per cent to \$927 million. Decreases in federal expenditures on roads and bridges are related to the winding down of a major capital program on the Jacques Cartier and Champlain bridges in Montreal. Expenditures on safety, security and policy are expected to reach \$809 million in 2003/04, up 18 per cent from the previous year. Major increases in recent years are related to commitments to security in the air sector.

TABLE 3-2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 1999/2000 – 2003/04

(Millions of dollars)					
	1999/ 2000	2000/01	2001/02	2002/03	2003/04 ^F
Operations	907	935	945	938	927
Airports	123	92	75	56	67
Aircraft services	51	70	59	57	63
Coast Guard	480	496	475	498	521
Ports and harbours ¹	99	107	117	120	122
Roads and bridges ²	141	159	208	195	145
Research and development	13	11	10	13	12
Safety, Security and Policy	342	354	446	686	809
Canadian Air Transport Security Authority ³	-	-	-	260	400
Air Safety and Policy ⁴	142	153	161	167	186
Marine Safety and Policy	48	49	56	59	60
Road and Rail Safety and Policy	39	40	46	53	49
Multimodal Policy and Safety ⁵	114	112	183	148	160
Departmental Administration	96	111	124	131	124
Total	1,346	1,400	1,515	1,754	1,860

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes expenses for small fishing ports by Fisheries and Oceans Canada.

2 Includes contributions by Transport Canada to the Champlain and Jacques Cartier bridges, and expenses of the National Capital Commission, Public Works and Government Services, Parks Canada, and Indian and Northern Affairs.

3 Cash basis.

4 Includes expenses of the Civil Aviation Tribunal.

5 Includes expenses for the regulation and inspection of the transport of dangerous goods, Security and Emergency Preparedness, the Canadian Transportation Agency, and other multimodal safety, policy and analysis. Large increases in 2001/02 related to the purchase of explosives detection equipment.

F Planned and/or actual.

Source: Transport Canada

FEDERAL SUBSIDIES TO TRANSPORTATION

In 2003/04, total federal direct subsidies, grants and contributions are expected to grow to \$805 million, 5.5 per cent or \$42 million more than in 2002/03. The major sources of change are highway transfers, which are \$21 million higher, and port transfers, which rose by \$48 million following the payment of a loan guarantee to Ridley Terminals. Subsidies to the rail mode increased by \$6 million. Subsidies to the air mode, on the other hand, fell by \$13 million, as higher airport subsidies were not sufficient to offset lower contributions to the Cabin Security Enhancement Program as it was being completed. Table 3-3 presents more details on these subsidies.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 1999/2000 – 2003/04

(Millions of dollars)					
	1999/ 2000	2000/01	2001/02	2002/03	2003/04 ^F
Air Mode					
Airport (Operation & Capital)	38.7	46.8	50.6	35.3	39.7
Airport/Airline Assistance ¹	-	-	123.9	25.4	7.0
Other	1.6	1.8	2.9	2.7	3.3
Total Air	40.3	48.5	177.4	63.4	50.0
Marine Mode					
Marine Atlantic	114.8	38.6	36.8	46.4	41.6
Transfers to ports ²	22.0	45.4	21.6	22.1	69.7
Other ferry and coastal services	31.8	30.8	31.7	32.2	32.0
Other ³	1.8	35.0	24.9	8.5	7.9
Total Marine	170.4	149.8	114.9	109.2	151.2
Rail Mode					
VIA Rail	170.3	231.6	310.2	255.7	264.2
Hopper cars	20.0	18.2	16.4	16.0	12.9
Grade crossings	7.4	7.5	7.5	7.5	7.5
Other	8.3	8.4	8.3	8.6	8.9
Total Rail	206.0	265.7	342.5	287.8	293.5
Highway Modes					
Transition programs ⁴	57.5	15.3	23.7	37.2	32.2
Highway agreements ⁵	107.2	62.8	69.0	101.4	122.4
Infrastructure program	-	-	7.4	34.8	57.5
Fixed Link in					
Prince Edward Island	46.1	47.2	48.6	49.2	50.6
Other ⁶	18.6	20.1	11.1	13.2	14.7
Total Highway Modes	229.4	145.4	159.7	235.9	277.5
Transit Systems^{6,7}	-	-	2.4	66.3	31.9
Grand Total⁸	646.3	609.8	747.8	763.3	805.4

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca). Transport-related expenditures by regional development agencies have been added retroactively to 1996/97.

1 Includes air carrier assistance of \$99 million in 2001/02 and a cabin security enhancement program of \$28 million 2002/03 and \$6 million in 2003/04.

2 Includes contributions to the Port Divestiture Fund, a payment of \$36 million to the Government of Quebec for the transfer of ferry wharves in 2000/01 and \$64 million for the payment of a loan guarantee to Ridley Terminals in 2003/04.

3 Includes a payment of \$214 million to the Hamilton Harbour Commission for the settlement of a civil litigation.

4 Offset federal programs to the elimination of the Western Grain Transportation Act Program.

5 Includes \$33 million in 2002/03 and \$74 million in 2003/04 under the Strategic Highway Infrastructure Program.

6 Includes in 2002/03 and 2003/04 the estimated road and transit portion of the Toronto Waterfront Revitalization Project.

7 Spending included previously under Highway Modes.

8 Includes small amounts not classified elsewhere.

F Planned and/or actual.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

DISTRIBUTION OF PROVINCIAL/TERRITORIAL AND LOCAL EXPENDITURES BY PROVINCE¹

In 2002/03, provincial, territorial and local governments spent \$17 billion on transportation; this was \$1.0 billion, or 6.6 per cent, more than in 2001/02. Local expenditures increased by \$0.6 billion (6.9 per cent). The provinces/territories spent \$8.1 billion, 5.7 per cent more than in 2001/02 but still below the peak levels of \$8.9 billion reached in 1999/2000.

Since 1999/2000, provincial/territorial and local governments have spent, on average, 0.6 per cent per year more on transportation. Quebec, the Northwest Territories and Saskatchewan had the largest relative increases, while Alberta, British Columbia, New Brunswick and Newfoundland and Labrador reported decreasing expenditures.

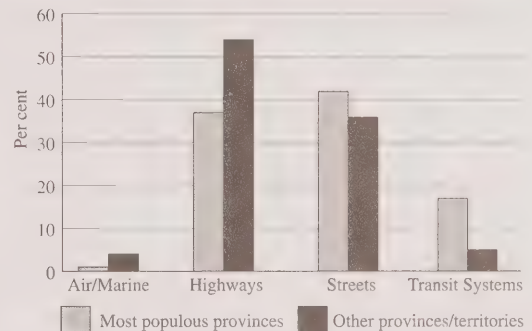
Federal transfers were equivalent to 1.2 per cent of transport spending by local and territorial governments in 2002/03. The Yukon was the most reliant province/territory on federal transfers, with some 31 per cent of its transport spending dependent on federal transfers. New Brunswick had a 12 per cent dependency on federal transfers.

Spending on highways and roads is the most important category of transport-related expenditures for all provinces, accounting for 39 and 41 per cent, respectively, of all net spending by provincial/territorial and local governments. Other modes are also significant for some provinces/territories. Remoteness makes spending on air transportation more significant for the Northwest Territories, where it accounted for 18 per cent of transport spending in 2002/03.

Expenditures on transit are significant in British Columbia, Ontario, Alberta and Quebec. British Columbia reported the largest transit expenditure share, with 19.2 per cent in 2002/03. From 1999/2000 to 2002/03, Quebec showed the largest increase in spending (\$142 million). Expenditures declined in Ontario over the period, despite additional expenses of approximately \$100 million in 2002/03.

Figure 3-1 illustrates the differences in the distribution of modal expenditures between the four most populated provinces and the rest of the country. The most striking difference is in the share of transit expenditures, which reached 17 per cent in British Columbia, Quebec, Ontario and Quebec. In other provinces/territories, the share is less than five per cent. Urban pressure is also illustrated by the share of expenditures on streets in more populous provinces, 42 per cent compared with 34 per cent in the rest of the country. Conversely, the less populated areas of the country spend relatively more on highways than the populous provinces, and spending on air and marine transportation are also more significant, especially in the Northwest Territories.

FIGURE 3-1: MODAL SHARE OF LOCAL AND TRANSPORT EXPENDITURES, 2000/01 – 2002/03



Source: Transport Canada

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. Revenues from cost-recovery initiatives are credited to the federal departments' budget, while revenues from other sources are credited to the federal government's Consolidated Revenue Fund. Both are part of this analysis. Excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees, constitute revenues collected from transport users. Table 3-4 highlights government revenues from transport users from 1999/2000 to 2003/04.

1 For more detailed data, see the tables for Chapter 3 in the Addendum on Transport Canada's Web site (www.tc.gc.ca).

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 1999/2000 – 2003/04

	(Millions of dollars)		2001/02	2002/03	2003/04 ^F
	1999/ 2000	2000/01			
Airport revenues	271	250	264	319	227
Aircraft services	27	28	34	26	25
Airport security fee ¹	-	-	-	421	400
Marine revenues ²	79	72	70	68	70
Leases of hopper cars ³	13	14	14	15	12
Other fees and recoveries ⁴	41	35	26	33	31
Total	431	397	408	883	766
Federal fuel taxes	4,786	4,807	4,758	5,014	N/A
Public and non-transport use ^{5,6}	440	445	437	424	
Road ⁷	4,138	4,142	4,109	4,396	N/A
Other modes ⁸	208	219	211	193	N/A
Provincial/territorial fuel taxes	6,968	6,914	6,958	7,263	N/A
Sales tax equivalent ⁷	668	799	777	793	
Road ⁸	5,993	5,805	5,894	6,184	N/A
Other modes ⁸	307	310	287	286	N/A
Provincial/territorial licences/fees ⁸	2,689	2,738	2,807	2,919	N/A
Total tax revenues					
from transport users	13,335	13,214	13,309	13,979	N/A
Total tax and fee revenues					
from transport users	13,767	13,611	13,717	14,862	N/A

Note: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

Since 1996/97, the Air transport tax, formerly netted against Transport Canada budget has been credited to the Consolidated Revenue Fund.

1 Accrual basis.

2 Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.

3 Credited to the Consolidated Revenue Fund.

4 Includes air safety fees, other licensing and administrative fees, inter- and intra-departmental transfers for services and various regulatory fees credited to either Transport Canada or the Consolidated Revenue Fund.

5 Estimated fuel taxes from public administrations and mobile users of the public transport system.

6 Estimates by Transport Canada (revised).

7 Estimates based on the sales tax that would have applied to provincial fuel prices.

8 The amounts shown exclude licences and registration fees dedicated to the Société de l'Assurance Automobile du Québec.

F Planned and/or actual.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

In 2002/03, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected \$14.9 billion from transport users through fuel taxes and permit and licence fees. This was 7.7 per cent more than in 2001/02. By far, road fuel taxes make up the largest component of government tax revenues from transportation, averaging \$10.1 billion, or 73 per cent of all government revenues from transport users, from 1999/2000 to 2002/03. In recent years, the growth of road fuel demand and road fuel tax revenues was moderated by higher fuel prices. However, in 2002/03, road fuel tax revenues increased by 5.4 per cent as a result of higher fuel taxes in most of Atlantic Canada and British Columbia and lower fuel prices, which stimulated demand. Other fuel tax revenues decreased in 2002/03 by \$19 million, or 3.9 per cent, due to a combination of reduced activity and better fuel efficiency in other modes.

In 2003/04, federal government transportation revenues other than fuel taxes are expected to total \$766 million, down 13.2 per cent from 2002/03 levels. This expected drop is a result of the lowering of air security fees and airport rents. Marine fees are expected to bring in around \$70 million. Other federal revenues not credited to transport, such as revenues from the leases of hopper cars or the sale of port assets, are also reported in Table 3-4.

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

This section summarizes consolidated federal expenses, and expenditures by the provincial/territorial and local governments, netted of transfers received from other levels of government from 1999/2000 to 2002/03. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period.

Total government spending on roads has risen by 4.1 per cent per year since 1999/2000, reaching \$14 billion in 2002/03. Road expenditures now account for 72 per cent of overall spending on transportation.

Public funding of transit systems, after several consecutive years of decline, increased by \$225 million, or 9.4 per cent, to reach \$2.6 billion in 2002/03. In the same year, public spending on transit systems accounted for 13 per cent of all government expenditures on transportation. In the mid-1990s, the transit share of government spending on transportation averaged 16 per cent.

In 2002/03, the air mode accounted for 3.5 per cent (\$670 million) of gross government spending on transportation. Air-related public spending, which had been declining until 1999/2000, has since recovered by 59 per cent. Without the new initiatives related to safety and security, public spending in the air mode would have continued to fall by a further 18 per cent to \$362 million.

Public spending related to the marine mode, after excluding the transfer of the BC Ferry debt to the provincial government, continues to hover around \$1 billion. The share of the marine mode in public spending on transportation reached five per cent, a level that has not changed significantly since the mid-1990s.

Public spending on rail has grown by 14.4 per cent per year since 1999/2000, accounting for 1.7 per cent of gross government spending on transportation in 2002/03. Rail passenger subsidies account for 75 to 80 per cent of total spending on rail.

In 2002/03, the federal and provincial governments spent \$2 billion on the air, marine and rail modes combined, while generating \$1.4 billion in fees and tax revenues from transport users. Revenues increased by \$452 million, following the introduction of the Air Security Fee in 2002/03.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. About four per cent of government transportation spending falls under this category.

**TABLE 3-5: TRANSPORT EXPENDITURES/REVENUES
BY MODE AND LEVEL OF GOVERNMENT,
1999/2000 – 2002/03**

	(Millions of dollars)				
	1999/ 2000	2000/01	2001/02	2002/03	2003/04 ^F
Federal Operating & Maintenance, Capital and Subsidies¹					
Air	356	363	473	603	718
Marine	797	801	763	786	853
Rail	222	282	362	310	313
Road	394	328	394	461	451
Transit	-	-	2	66	32
Other/Overhead	224	236	318	292	298
Subtotal	1,992	2,010	2,312	2,518	2,666
Provincial/Territorial/Local²					
Air	66	78	77	70	N/A
Marine	1,246	165	169	193	N/A
Rail	5	21	27	30	N/A
Road	12,044	12,876	12,809	13,580	N/A
Transit	2,618	2,421	2,392	2,553	N/A
Other/Overhead	344	390	452	548	N/A
Subtotal	16,324	15,951	16,973	15,926	N/A
Total Expenses: All Government Levels					
Air	422	442	549	672	N/A
Marine	2,044	966	933	978	N/A
Rail	227	303	389	340	N/A
Road	12,438	13,205	13,204	14,041	N/A
Transit	2,618	2,425	2,394	2,610	N/A
Other/Overhead	568	626	770	840	N/A
Subtotal	18,316	17,961	18,283	19,491	N/A
Government Revenues from Transport Users					
Road users	12,820	12,686	12,811	13,499	N/A
Rail, air and marine	933	918	902	1,352	N/A
Multimodal	14	8	4	10	N/A
Total	13,767	13,611	13,717	14,862	N/A

Note: N/A = Not available. More details are available on Transport Canada's Web site (www.tc.gc.ca).

¹ Taken from tables 3-2 and 3-3.

² Transport Canada; provincial/territorial departments of transportation. Many provinces have moved to unconditional grants to local governments. For this reason, transportation transfers may be underreported. Net expenses by local governments are netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division; data are on a calendar year basis.

³ Taken from Table 3-4.

^F Forecast at January 31, 2004, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments

TRANSPORTATION SAFETY AND SECURITY

4

An increase in the number of accidents was noted in all modes in 2003, while the number of fatalities fell in marine and rail transportation. Public confidence in the security of Canada's transportation system continues to rise as further security enhancements were implemented in 2003.

A safe and secure transportation system ensures that all Canadians are able to travel and it also contributes to Canada's economic prosperity and ability to trade effectively. This is why preserving the safety and security of Canada's transportation system remains Transport Canada's primary focus.

Canada already has one of the safest and most secure transportation systems in the world and continues to work diligently to further improve the system. In upholding the safety and security of the transportation system, Transport Canada carries out its objectives through three principal activities: rulemaking, oversight and outreach.

The safety and security of the transportation system is a shared responsibility. Transport Canada collaborates with other federal departments whose programs and services may be affected by transportation activities. Transport Canada also works with provincial, territorial and municipal governments particularly concerning the maintenance of the highway system and enforcement of road safety, as well as the co-delivery of the Transportation of Dangerous Goods (TDG) program. Furthermore, Transport Canada works closely with transportation sector industries, agencies and associations, all of which have a vested interest in the transportation infrastructure, regulatory regime and safety and security. Additionally, Transport Canada collaborates with its international partners — such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) — to harmonize safety and security standards and to share best practices in safety and security systems.

In 2003, Transport Canada — working with government and industry stakeholders — increased its efforts to be more vigilant and to implement more stringent transportation safety and security standards. Canada continues to maintain a good transportation safety record. Although the number of accidents was up for all modes of transportation in 2003 (latest data for road is 2002), the number of transportation-related fatalities for marine and rail remained below those of 2002. Moreover, the number of transportation-related fatalities has remained below the previous five-year average in aviation, rail, marine and the transportation of dangerous goods, as well as slightly below for road (2002 data). The safety record observed in the different transportation modes in 2003 has not affected the long-term trends in accidents reported in previous years.

The positive outcomes in transportation have been influenced by security enhancement initiatives introduced in 2003, which have contributed to improved public confidence in the safety and security of the transportation system.

This chapter reviews developments and initiatives concerning the safety and security of Canada's transportation system during 2003. After a review by mode of the 2003 safety records, transportation security is discussed and the various enhancements undertaken in 2003 are reviewed.

TRANSPORTATION SAFETY

This section presents the most recent safety-related statistics for all modes of transportation, as well as for the transportation of dangerous goods. Reports of accidents and incidents made to the Transportation Safety Board (TSB) are one of the principal sources of safety-related occurrence statistics. Accidents are those occurrences that have resulted in the loss of or damage to life, health and property, while incidents are those that have the potential to result in an accident. The specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (Details for aviation, marine and rail are available under TSB Regulations at www.tsb.gc.ca/en/common/acts.asp.) For road, collisions reported to the police are collected by the provinces/territories under the agreement of the Canadian Council of Road Transport Administrators and provided to Transport Canada to develop the national casualty collision statistics. The collection and processing of high volumes of data for over 600,000 crash cases annually can take over a year to compile and release the statistics at the jurisdictional and national levels. Transport Canada is the primary source for the dangerous goods statistics. There has been a recent change in reporting criteria affecting these statistics (For details, refer to <http://tcinfo/tdg/clear/part8.htm>). As safety-related occurrence statistics, they provide indicators of the transportation system's safety performance and help focus efforts on those initiatives and activities that have high safety benefits.

Compared with 2002, the number of accidents in 2003 increased for aviation (eight per cent), marine (15 per cent) and rail transportation (4.5 per cent). With the exception of marine, however, the number of accidents in 2003 remained below the previous five-year average. The latest available statistics for road casualty collisions (2002) show an increase of 3.4 per cent from 2001. Reportable accidents involving the transportation of dangerous goods decreased from 439 in 2002 to 358 in 2003. This decrease is largely attributed to changes in accident-reporting regulations. Table 4-1 and the more detailed Table A4-1 in the Addendum summarize the modal safety record in 2003, including the transportation of dangerous goods.

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE, 2002 AND 2003¹

	Aviation ¹	Marine ²	Rail ³	Road ⁴	TDG ⁵
Accidents					
2003	296	483	1,028	159,498	358
2002	274	421	984	154,268	439
Five-year average (1998 – 2002)	323.2	457.4	1,062.2	154,075	452
Fatalities					
2003	58	19	77	2,936	0
2002	50	26	96	2,781	1
Five-year average (1998 – 2002)	65.2	24.0	98.0	2,941	1.4
Accident Rate⁶					
2003	7.7	17.9 ^e	11.5	50.5	N/A
2002	7.0	18.0	11.0	49.7	N/A
Five-year average (1998 – 2002)	7.7	17.6	11.9	50.5 ^e	N/A

Note: P= Preliminary data for 2003. e = estimated.

N/A = Not available.

1 Canadian-registered aircraft, other than ultralights. Accident rates per 100,000 itinerant aircraft movements at top 100 airports.

2 Accidents involving Canadian-registered vessels. Accident rates per million vessel kilometres for commercial vessels of equal to or greater than 15 GRT.

3 Railways under federal jurisdiction. Accident rates per million main track train-miles and includes both main track and yard switching miles.

4 Road statistics relate to 2002 (most recent road safety statistics) and to the 1997 - 2001 five-year averages. Rate per 100 million vehicle-kilometres. Road accidents are casualty collisions, which exclude collisions in which only property is damaged.

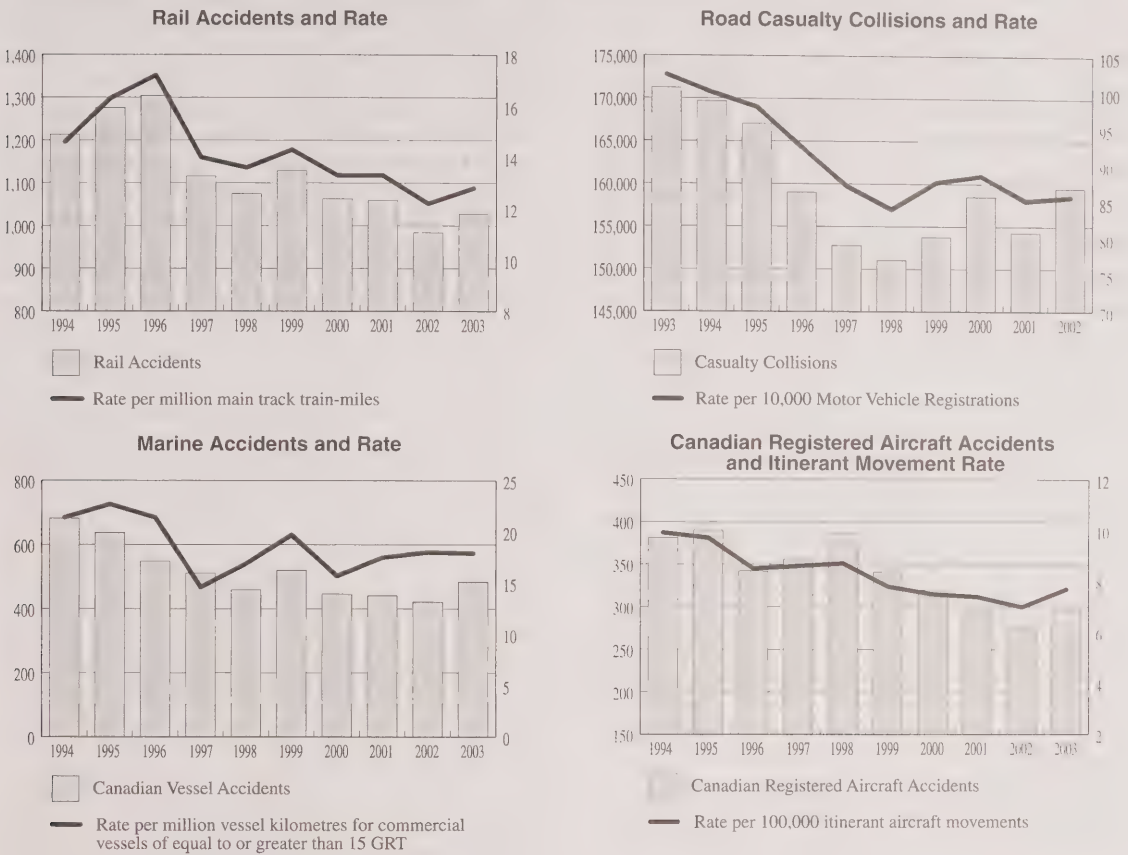
5 TDG = Transportation of Dangerous Goods. Fatalities caused by the dangerous goods.

Source: Transportation Safety Board, Transport Canada and Statistics Canada

Another indicator of the safety performance of the transportation system is the number of fatalities. In 2003, there were no fatalities caused by the dangerous goods in a transport accident. In addition, there were fewer fatalities in the marine and rail modes. There was a slight increase in aviation fatalities but the total remained below the five-year average. From 2001 to 2002 (the most recent statistics), road fatalities increased by 5.6 per cent to 2,936.

The above year-over-year analysis and modal comparisons can be incomplete if the long-term trends and specifics of each mode, including the level of activity and therefore exposure to risk, are not taken into account. That said, accident rates in 2003 changed less notably. They were closer to the same levels as in 2002 or the previous five-year average. The 2003 rates for air were up slightly over 2002, but remained at the same levels compared with the 1998 – 2002 averages. No notable changes in accident rates were indicated for marine (Canadian commercial vessels of ≥ 15 GRT), rail or road when compared with the previous year or the previous five-year averages. This indicates that the increases in the levels of activity measures (representing to various degrees the increased exposure to risk) have contributed toward the increases in the number of accidents. Figure 4-1 shows the ten-year trend for the four modes, a trend that despite observed fluctuations from one year to another is generally downward in terms of both number of accidents

FIGURE 4-1: ACCIDENTS AND ACCIDENT RATES PER ACTIVITY MEASURE FOR RAIL, ROAD, MARINE AND AVIATION



Source: Transportation Safety Board, Transport Canada and Statistics Canada

and accident rates per activity level. It is important to note that these rates are only a basis for interpreting the occurrence statistics in each mode and not for comparing across modes, given that the activity measure is particular to each mode and may have its own set of data limitations. (For more information, see notes to Table A4-1 in the Addendum.)

RAIL

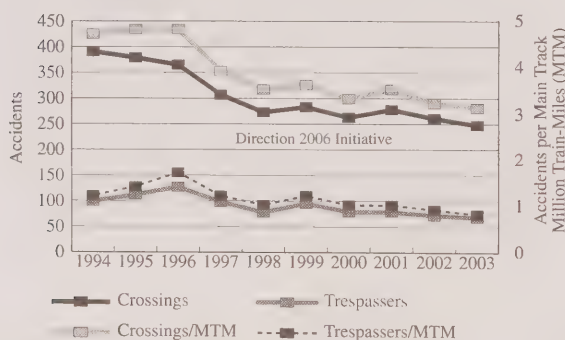
In 2003, the number of reported rail accidents increased by 4.5 per cent, from 984 in 2002 to 1,028 in 2003. Although this increase interrupted the downward trend of previous years, the actual number of rail accidents in 2003 remained 3.2 per cent below the previous five-year average (1998 – 2002) of 1,062.2 accidents. An accident rate of 11.5 per million train-miles was observed in 2003, up from 11.0 in 2002 but still below the previous five-year

average of 11.9. This increase is attributed mainly to a greater number of main track (from 116 in 2002 to 148 in 2003) and non-main track (from 347 to 387) train derailment accidents. Of reported accidents, 48 per cent occurred on non-main tracks and involved either a derailment or collision. These accidents are generally minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. The reported rail accidents presented in this section, and in tables A4-2 to A4-4 in the Addendum, cover the rail networks under federal jurisdiction only.

The number of rail accident fatalities decreased by 20 per cent in 2003 and by 21 per cent compared with the 1998 – 2002 average. In 2003, there were 72 fatal accidents (resulting in 77 fatalities). A total of 63 serious accidents resulted in 77 serious injuries, a slight increase over the 71 injuries reported in 2002 but still below the five-year average of 79.4. The majority of these fatalities and injuries resulted from crossing or trespasser accidents. For a provincial breakdown of accidents, fatalities and serious injuries involving railways under federal jurisdiction, see tables A4-3 and A4-4 in the Addendum. In recent years, a federal/provincial data sharing initiative was undertaken to capture occurrences on rail networks under provincial jurisdiction, (accounting for 17 per cent of the total national rail network).

Direction 2006 Initiative — Launched in 1996, Direction 2006 is a strategic partnership initiative aimed at reducing crossing and trespasser accidents by 50 per cent by 2006. (For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.) Crossing and trespasser accidents continued to account for the greatest number of fatal and serious accidents in 2003: 95 per cent of the fatalities and 92 per cent of the serious injuries reported. Crossing accidents remained below the five-year average and decreased five per cent, from 261 in 2002 to 248 in 2003. Fatalities related to crossing accidents decreased notably, from 46 to 27, while serious injuries increased slightly, from 42 to 50. Trespasser accidents decreased from 73 in 2002 to 68 in 2003. Trespasser fatalities decreased from 49 to 46, while serious injuries remained the same at 21. Figure 4-2 presents recent trends in crossing and trespasser accidents.

FIGURE 4-2: CROSSING AND TRESPASSER ACCIDENTS, 1994 – 2003



Source: Transport Canada, based on Transportation Safety Board data

Accidents at public automated crossings increased slightly in 2003 (from 128 to 135), while accidents decreased at public passive crossings (from 96 in 2002 to 72 in 2003 and over the five-year average of 90.0). See Addendum Table A4-4 for more details. Transport Canada, together with its partners and stakeholders, is finalizing new regulations that will establish clear direction and consistency in the construction and maintenance of crossings and access control along rail lines. In collaboration with railways and road authorities, Railway Safety Inspectors conduct risk assessments of highway–railway grade crossings, while Transport Canada administers a crossing funding program for those crossings at greatest risk. In addition, to reduce the risk of accidents at night, Transport Canada continued to fund initiatives to apply reflective material on the front and back of railway crossing signs and supporting posts at 11,000 passive grade crossings across Canada.

Passenger safety — In 2003, the number of passenger trains involved in accidents decreased notably, from 67 in 2002 to 53, to remain below the five-year average of 68.6. In 2002, VIA Rail began train service with passenger cars equipped with crash energy management technology that was introduced in consultation with Transport Canada.

Work/Rest Rules — In-depth investigations have demonstrated that fatigue is a major factor in transportation accidents. In consultation with railway unions, the Railway Association of Canada and its members developed work/rest rules for rail operating employees, which came into effect in April 2003. During 2003, these rules were implemented across the rail industry. Application of these rules continues to be monitored by Transport Canada, and problems identified are being evaluated. Ongoing discussions are being held with the industry to resolve outstanding issues and further improve crew alertness and safety.

Safety Management Systems — The implementation of safety management systems (SMS) continues to be the cornerstone of Transport Canada's work to instill a strong safety culture in the transportation industry. The Railway Safety Management System (RSMS) Regulations, which came into effect on March 31, 2001, require all federally regulated railway companies to implement and maintain an RSMS. In 2003, Transport Canada continued to establish its RSMS audit program by assessing company SMS documentation and evaluating the implementation and effectiveness of documented processes and procedures. To date, more than 40 railways have undergone an RSMS documentation audit and 12 railways have undergone verification audits. Transport Canada continued to focus on industry education and awareness of the RSMS regulations and its purpose, as well as the completion of the initial cycle of RSMS audits.

Transportation Appeal Tribunal of Canada — The Transportation Appeal Tribunal of Canada (TATC) became functional on June 30, 2003, providing a recourse mechanism with respect to certain administrative actions taken by the Minister of Transport under various pieces of federal transportation legislation. For federally regulated railways in Canada, this means that a request for a review hearing will be available where a Notice and Order is issued under the *Railway Safety Act*. In 2003, the Rail Safety Program made railways aware of the TATC and established related Transport Canada Rail review processes and procedures. For more information on these and other initiatives, visit www.tc.gc.ca/railway/en/menu.htm.

ROAD

Over the last two decades, Canada's road safety record has improved continuously. In 2002 (most recent statistics), however, there was a 3.4 per cent increase in casualty collisions from 2001. There was also a 5.6 per cent increase in road-related fatalities (from 2,781 in 2001 to 2,936 in 2002) and a three per cent increase in road-related injuries, translating into 6,647 additional injuries in 2002. Addendum Table A4-5 illustrates annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries. This annual increase may be attributable in part to changes in vehicular traffic, such as the increased number of vehicle registrations (up three per cent) and vehicle-kilometres travelled (up two per cent). The 2002 increases have resulted in a small increase (less than one per cent) in the casualty collision rate per 100 million vehicle-kilometres travelled over the 2001 rate (from 49.7 to 50.5). The longer-term downward trend in fatalities (679 fewer fatalities in 2002 than the 3,615 in 1993) and injuries (19,820 fewer injuries in 2002 than in 1993) has helped reduce the estimated annual social cost to Canadians of up to \$25 billion. The long-term trends are confirmed by a rate based on the annual number of motor vehicle registrations (e.g. 1.6 fatalities per 10,000 motor vehicles in 2002 compared with 2.2 in 1993). Data by provinces/territories are shown in Addendum Table A4-6.

Road Safety Vision 2010 — Road Safety Vision 2010 (RSV 2010) was adopted in the fall of 2001. Its national target is a 30 per cent decrease by 2010 in the average number of road users killed or seriously injured over comparable 1996–2001 figures. For more information on Canada's road safety record, including international comparisons, and on RSV 2010 targets and the nine sub-target areas, visit www.tc.gc.ca/roadsafety/vision/2010/en/menu.htm.

Seat belts — One of the key RSV 2010 sub-targets is to increase the number of Canadians who wear seat belts. A national seat belt survey conducted each June since 1988 shows that the use rate for passenger car drivers has reached a plateau, hovering just above 90 per cent since 1995. The increased use of seat belts has contributed to saving thousands of lives over the years. Addendum Table A4-7 provides the motor vehicle occupant fatalities and seat belt wearing rates. In September 2002, Transport Canada conducted an observational survey of seat belt use in rural communities across Canada. The survey was undertaken because evidence indicated that the majority of motor vehicle fatalities in rural areas involve people who were not wearing seat belts. The survey showed that the seat belt wearing rate in rural areas was approximately five per cent lower than the national average. Much lower rates of seat belt use were indicated among front seat occupants of light trucks (77.5 per cent) than of passenger cars and passenger vans (both at 88.2 per cent), and the rate was lowest (81.5 per cent) among those aged 25 and under. In 2001, 66 per cent of the total fatalities by location (2,433) were on rural roads, while the remainder was on urban roads. For more information on the survey of seat belt use in rural communities across Canada and provincial/territorial breakdown jurisdiction, visit www.tc.gc.ca/roadsafety/tp2436/rs200302/menu.htm#Chart_1.

Drinking drivers — The percentage of fatally injured drivers who were tested and found with an alcohol concentration rate in their blood over the legal limit of 80 mg% has declined steadily since the late 1980s, from 40 per cent to approximately 30 per cent in recent years. The same is true for the number of persons charged with impaired driving offences (70,539 in 2001 (most recent data) compared with 112,000 in 1991). It is not known whether the decrease in charges is a result of public education programs, stiffer penalties or reductions in police enforcement, or a combination of all these factors. Despite these declines, alcohol was still a contributing factor in approximately 1,103 road fatalities (2001 data). As Addendum Table A4-8 shows, 2001 saw an increase in the percentage of those fatalities with over 80 mg% in blood alcohol concentration.

Commercial Vehicles — Another RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles (i.e. heavy trucks and buses). Addendum tables A4-9A and A4-9B, show, from 1997 to 2001, that while commercial vehicles accounted for about eight per cent of all vehicles involved in all types of collisions, collisions involving commercial vehicles were the source of roughly 20 per cent of all road

fatalities. In 2001 (most recent data), 548 fatalities resulted from collisions involving commercial vehicles. Fatigue is recognized as a major factor in transportation accidents. Consequently, a key initiative in recent years has been to revise and modernize the hours of service rules under the National Safety Code, allowing trucking companies to better manage the fatigue factor in their operations. Revisions to the *Motor Vehicle Transport Act*, 1987 (MVTA), Bill S-3, which authorizes provinces to regulate extra-provincial motor carriers, received Royal Assent on June 14, 2001. The revised Act creates a national framework for motor carrier safety regulation focussed on the consensus-based National Safety Code Standard #14 - Safety Rating by authorizing the provincial governments to apply a national safety regulatory regime to extra-provincial motor carriers operating out of their jurisdiction. Once a sufficient level of national consistency in safety rating is achieved, the revisions to the Motor Carrier Safety Fitness Certificate Regulations will also come into force.

As Addendum Table A4-10 shows, motor vehicle drivers accounted for about half (53 per cent) of the 1998 – 2002 average total fatalities (2,916) by road user class, while passengers accounted for a quarter (25 per cent). Driver (1,546) and passenger (730) fatalities increased by seven and 12 per cent, respectively, in 2002 over 2001. Pedestrian fatalities also increased, by nine per cent, from 335 in 2001 to 370 in 2002, accounting for 13 per cent of the total number of road-related fatalities and the third largest share of the five-year average total. As Addendum Table A4-11 shows, of the vehicles involved in fatal collisions between 1997 and 2001, automobiles accounted for approximately half, pickup trucks were second (accounting for about a third) and the larger trucks were third, while motorcycles were a distant fourth. The 2001 (163) and 2002 (172) motorcyclists fatalities, however, accounted for six per cent of total fatalities, despite accounting for less than two per cent of the total number of licensed drivers. For more statistics on road safety system performance, including the updates to 2002 Canadian Motor Vehicle Traffic Collision Statistics, visit www.tc.gc.ca/roadsafety/stats/menu.htm.

MARINE

In the marine transportation sector, after a record low year, the number of marine accidents increased by 15 per cent in 2003, with 483 Canadian vessel accidents compared with 421 in 2002. The majority of these accidents were shipping accidents (431), five per cent more than the previous five-year average. Accidents aboard Canadian ships also increased (52) over the five-year average (46.6) and made up the remainder of accidents. Of the 468 total Canadian vessels involved in an accident, which includes those where more than one vessel was involved (e.g. striking or collision between vessels), fishing vessels represented the largest proportion, with 54 per cent, while commercial vessels followed with 35 per cent. The commercial accident rate, based on vessel-kilometres and commercial vessels ≥ 15 gross registered tonnage (GRT), remained about the same in 2003 (17.9) as in 2002 (18.0).

Despite the increase in Canadian marine accidents in 2003, there was a record equivalent low in the number of lives lost (19 compared with 24 for the previous five-year average). There were 72 persons injured in 2003, close to the 2002 total of 70 but somewhat higher than the five-year average of 68.4. For a second year, confirmed Canadian vessel losses remained low, 30 in 2003, which is below the previous five-year average of 40.8.

Regionally, the increase in shipping accidents in 2003 was largely recorded on the Atlantic coast. For more details on accidents reported to the Transportation Safety Board, and for a comprehensive regional breakdown, see Addendum tables A4-12 and A4-13.

Small Commercial Vessels — In 2003, the 69 small vessels (≤ 150 GRT) engaged in commercial operations, excluding fishing, represented 15 per cent of Canadian vessels involved in shipping accidents. Of these 69, 44 were engaged in passenger/charter activities. For more details, see Addendum Table A4-14. Transport Canada continued to advance the regulatory and safety agenda for small commercial vessels in 2003 through the Marine Safety Small Vessel Monitoring and Inspection Program. This program is committed to improved inspection and monitoring of vessel compliance. These measures will help identify vessels of higher risk. Impending amendments to stability and construction standards and life-saving equipment in the Small Vessel Regulations will further enhance safety.

Small Fishing Vessels — As in previous years, the number of small vessels engaged in fishing activities accounted for the largest proportion of Canadian vessels involved in shipping accidents, 54 per cent in 2003. It should, however, be noted that accidents involving these vessels have greatly declined in the last decade, as shown in Addendum Table A4-15. The safety of these vessels continued to remain a priority within Transport Canada. The Canadian Marine Advisory Council (CMAC) Standing Committee on Fishing Vessel Safety, with government and industry representation, continued to address regulatory issues and operator certification and training. To further promote an enhanced safety culture within the fishing industry, Transport Canada also revised and distributed the Small Fishing Vessel Safety Manual to commercial vessel licence holders.

International — As a member of the International Maritime Organization, Canada is required to report casualties for large commercial vessels. In 2003, there were no “very serious” casualties (e.g. loss of life, total vessel loss, severe pollution) involving Canadian vessels. One “serious” casualty (defined as main engine failure or damage rendering the ship unable to proceed) was reported. There were 49 shipping accidents involving foreign-flag vessels in Canadian waters, below the 2002 total of 54, but there were more accidents aboard ship in 2003 (15) than in 2002 (10). Canada is a signatory to two Memoranda of Understanding (MOU) on Port State Control. Under the MOUs, 1,276 foreign-flag vessels were inspected in 2003. Improved targetting and special inspection programs for bulk carriers and tankers have helped improve the safety of foreign ships entering Canadian ports. The percentage of ships with deficiencies decreased from 45 per cent in 2002 to 38 per cent in 2003. The number of detentions (58) was about the same as in 2002 but has decreased over the last five years.

Marine Transportation Safety Management Systems — Transport Canada’s focus on safety within the marine transportation sector is the continued implementation of safety management systems. These systems have been in place since 1998, when they were implemented on a worldwide basis for tankers, bulk carriers and passenger ships in international trade. In 2002, these requirements were extended to almost all vessels trading internationally. In Canada, this is implemented through the Safety Management Regulations. To date, 21 companies and 62 Canadian vessels have obtained the required statutory certification; which is issued by authorized third-party organizations (also known as classification

societies) on behalf of Transport Canada. Transport Canada directly monitors the performance of these third parties. In 2003, 10 monitoring visits were carried out and a sample of audit reports were reviewed. Some areas for improvement were identified and changes were initiated to bring communication directly to the regional level. Opportunities for increasing the scope of the Safety Management Regulations are now being investigated.

For occurrence information on recreational boating and related regulatory initiatives, visit www.redcross.ca and www.ccg-gcc.gc.ca.

AVIATION

Preliminary air accident figures reported to the Transportation Safety Board increased in 2003 by eight per cent. This increase interrupted a general downward trend, which up to 2002 represented the lowest annual number of accidents, including fatalities, involving Canadian-registered aircraft in the last 25 years. The 2003 increase is attributed primarily to an increase in private operator accidents (from 110 in 2002 to 137 in 2003). Although the number of accidents involving aircraft increased (from 274 in 2002 to 296 in 2003), it is at the same level as in 2001 (295) and remains eight per cent below the 1998 – 2002 average of 323.2. The number of fatal accidents remained about the same in 2003 as in 2002 (31 and 30, respectively), with eight more fatalities in 2003 (58 and 50). Comparing the 2003 year with the previous five-year average, shows a decrease in fatal accidents (33.2 in 1998 – 2002) and a decrease in fatalities (65.2). The number of serious injuries in 2003 (44) was about the same as in 2002 (42) and the five-year average (44.2). This section presents the Canadian-registered aircraft accidents only. For more details, please see Addendum Table A4-16.

As Addendum Table A4-17 shows, the 2003 aeroplane accident rates by hours flown, itinerant movements and the number of Canadian-registered aeroplanes all confirm about the same or slightly increasing rates compared with 2002 and the previous five-year average, and where the rates diminish in comparative consistency by the category of aircraft operations. Addendum tables A4-18A and A4-18B provide a breakdown by province of aviation accidents, fatal accidents and fatalities.

The year 2003 was a safe one for airlines and commuter aircraft, as no fatal accidents were reported despite a nominal increase in the number of accidents for airlines (from six in 2002 to seven in 2003) and an increase in commuter aircraft accidents (from six to nine). The 2003 accident rates for airliners and commuter aircraft (0.6 and 1.8 per 100,000 itinerant movements, respectively) confirm a consistent trend over that of the previous years. The sector of Air Taxi aircraft operations showed a slight increase in accidents in 2003 (41) compared with 2002 (35), with a marked decrease over the five-year average (60.2).

The Private/Other aircraft operations sector continued to account for the major proportion of all airplane accidents, 70 per cent in 2003 and 61 per cent of the 1998 – 2002 five-year average. Reported accidents within this sector of air transport activity increased from 139 in 2002 to 169 in 2003, an increase also over the previous five-year average of 161.2. The number of fatal accidents remained about the same in 2003 (17) as in previous years (15 in 2002 and 16.2 for the 1998 – 2002 average). Flight training is included as part of this sector of air operations. On average, it accounted for 19 per cent of all airplane accidents between 1998 and 2002 and 18 per cent of all airplane accidents during 2003.

In 2003, there were 834 reported incidents in total. Incidents refer to those occurrences that did not result in an accident but for which a potential for an accident was identified. The Declared Emergencies category (requiring priority handling by air traffic control or standby by emergency response services) continued to represent the largest share (35 per cent) of this total, followed by Risk of Collision / Loss of Separation (19 per cent). The 2003 engine failure incidences (132) were the lowest in more than a decade and have markedly decreased (20 per cent) over the five-year average of 164.

Flight 2005 — The Civil Aviation Safety Framework for Canada aims at two key objectives: a continued improvement in the high level of aviation safety in Canada; and a high level of public confidence in the country's civil aviation program. The implementation of initiatives emanating from Flight 2005 is ongoing, with emphases on a system approach to safety and consultations with the aviation industry. For information on Flight 2005 Safety Indicators and Targets, visit www.tc.gc.ca/civilaviation/Flight2005/Status/indicators.htm.

Safety Management Systems — The implementation of safety management systems (SMS) in aviation organizations has been a key instrument in improving the safety performance within the air transportation industry. Such systems establish more industry accountability and instill a consistent and positive safety culture throughout the aviation industry. The systems' goals have been realized by regulating safety performance, while leaving the means of achieving that performance more in the hands of industry management.

Aeronautics Act — A project to amend the *Aeronautics Act* was initiated to address fatigue management, liability insurance, aviation companies' management systems, analysis and reporting of safety data, and new compliance and enforcement tools. The amendment process has been progressing, as early consultation with key industry stakeholders has been completed, and continued input is being sought throughout the drafting process.

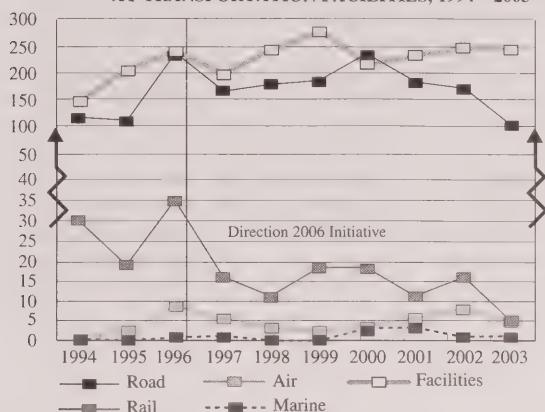
For more information on Flight 2005, SMS and the *Aeronautics Act*, visit www.tc.gc.ca/CivilAviation/menu.htm.

TRANSPORTATION OF DANGEROUS GOODS

In 2003, there were 358 reportable accidents involving the transportation of dangerous goods, down from 439 in 2002. Few accidents involving dangerous goods are actually caused by the goods themselves. Of the 358 reportable accidents, dangerous goods caused only two. Figure 4-3 shows that in recent years most reportable accidents involving dangerous goods did not occur during transport but rather during the loading or unloading phase at transportation facilities. The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2003, five fatalities and 39 injuries resulted from accidents involving dangerous goods. Of these, seven injuries resulted from the dangerous goods themselves.

The decrease in reportable accidents in 2003 is largely attributable to changes to the accident-reporting requirements in the revised version of the Transportation of Dangerous Goods (TDG) Regulations, which came into force on August 15, 2002. New requirements are based solely on the dangerous goods quantity released at the accident.

FIGURE 4-3: TDG REPORTABLE ACCIDENTS BY MODE AND AT TRANSPORTATION FACILITIES, 1994 – 2003



Source: Transport Canada, Dangerous Goods Accident Information System

Freight and freight movement can be measured in more than one way: the number of shipments, the weight of the shipment (tonne), the weight and distance of the shipment movement (tonne-kilometre), and the distance over which the shipment travelled (vehicle-kilometre). The measurement used depends on the nature of the need for a measure of the activity. There are approximately 30 million shipments of dangerous goods in Canada every year that are subject to the TDG regulations. Almost all (99.99 per cent) arrive safely at their destinations. As Figure 4-3 shows, among the four modes of transport, most reportable accidents (90 per cent) occur on road. It must be kept in mind, however, that 93 per cent of dangerous goods are shipped using road transportation. When tonnage is used as the unit of measurement of dangerous goods transported in Canada, only 51 per cent of the volume of dangerous goods transported is done by road while 38 per cent is transported by rail. The TDG program does not cover dangerous goods transported in bulk on ships or by pipeline. For more information on TDG exposure data, see the winter 2002 – 2003 edition of The Dangerous Goods newsletter at www.tc.gc.ca/tdg/newsletter/winter2002-2003.htm. For details on the number of reportable accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-19A to A4-19C.

Explosion during transport of explosives — A multi-year investigation into a traffic accident that involved a tractor-trailer transporting 18 tonnes of explosives and that resulted in an explosion was completed. It concluded that the most probable cause was the violent rupture of truck components (e.g. tires, some engine components, spring brake chambers, etc.) whose fragments, with sufficient energy, struck heat-sensitized explosives. Consequently, amendments to the way explosives are transported, handled or offered for transport were not considered.

Tank Car Thermal Protection Integrity — As a result of a Tank Car Thermal Protection Integrity project, it is now possible to use infrared camera technology to assess the integrity of the thermal protection systems found on rail tank cars. In 2003, inspectors were trained and based on preliminary assessment criteria, have started using this new approach to assess compliance with the thermal protection standard.

Highway tanker truck stability tests — A test program at the National Research Council has been launched to determine the rollover threshold of highway tanker trucks. Approximately 25 different trucks have been tested on a tilt-table. The collected data will be analyzed to see whether they can be used to develop a rollover threshold standard for tanker trucks transporting dangerous goods.

The National TDG Program — This Program is delivered across Canada in partnership with provinces and territories under terms defined in Memoranda of Agreement between the federal Minister of Transport and provincial/territorial Ministers. In 2003, such an Agreement was concluded with the recently created Territory of Nunavut. During the year, Transport Canada held training sessions throughout the country on the TDG Regulations offered to federal, provincial and territorial inspectors. A review of the *TDG Act, 1992* started in the fall of 2003.

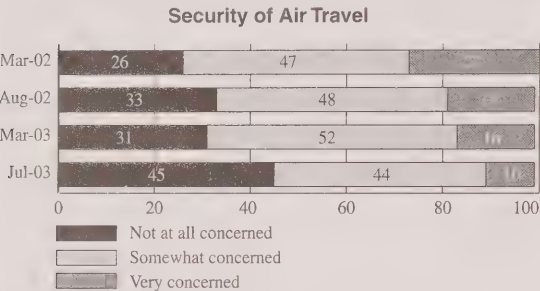
International harmonization — The harmonization of regulatory requirements across jurisdictions remains an important objective. Through participation in the North American Free Trade Agreement-related initiatives, Canada has proposed the establishment of harmonized North American Model Standards for highway and rail tank cars. Agreement has been reached to undertake such work for both the manufacturing and use of rail and truck tanks, with Canada leading the work on rail tank cars. Such work is important for the prevention of accidental releases of dangerous goods. In 2003, regulations requiring the use in Canada of United Nations (UN) performance packaging for all small containers (drums, boxes, bags or other similar containers) used to transport dangerous goods came into force. The UN performance requirements are based on UN recommendations and foster safety as well as international harmonization.

For more information on these initiatives, including the new Clear Language version of the TDG Regulations, visit www.tc.gc.ca/tdg/menu.htm.

TRANSPORTATION SECURITY

The security of the national transportation system continued to be strengthened in 2003 through various enhancements and initiatives. As a result, the confidence of Canadians in transportation security in all modes continued to increase. For example, Figure 4-4, which illustrates public opinion in the security of air travel since March 2002, demonstrates that public confidence in the security of air travel continues to be on an upswing.

FIGURE 4-4: TRACKING THE SAFETY OF MODES, 2003
Overall how concerned are you about the security of air travel in Canada?



Source: EKOS Research Associates

ENHANCING TRANSPORTATION SECURITY — 2003 INITIATIVES

In addition to the already rigorous security standards in all modes of transportation and the transportation of dangerous goods, Transport Canada implemented new initiatives in 2003 in collaboration with other federal departments, industry stakeholders and union representatives. The following sections provide further information on these initiatives by mode of transportation. See Table 4-2 for a list of key accomplishments.

TABLE 4-2: KEY 2003 TRANSPORT CANADA SECURITY ACCOMPLISHMENTS

- Implemented phase one of the Transport Canada Automated Fingerprint Identification System (TCAFIS).
- Developed technical requirements for the airport restricted area pass system with the Canadian Air Transport Security Authority (CATSA) and industry stakeholders. These requirements incorporate biometrics and information management processes.
- Developed tools for the implementation of the International Ship and Port Facility Security (ISPS) Code.
- Completed the initial review of Port Facility Security Assessments.
- Collaborated with the Canada Customs and Revenue Agency (CCRA), Canadian railways and the United States on a Declaration of Principles for southbound rail processing for security and contraband threats.
- Developed contingency plans (including increased screening of passengers, non-passengers and cargo) to address threats to Canada's transportation system.

Aviation Security

In 2003, Transport Canada continued to strengthen Canada's aviation security, in collaboration with the Canadian Air Transport Security Authority (CATSA), by:

- updating the standards for screening of passengers and their baggage and training screeners;
- consulting with aviation stakeholders, including labour groups, air carriers, airport operators and local police forces, to develop regulatory requirements for screening non-passengers;
- developing the technical requirements for enhancing the restricted area pass system for employees at airports. These requirements incorporate biometrics and enhanced information management to support the issuance, verification, cancellation and tracking of the passes; and
- developing tools to measure and evaluate the performance of advanced explosives detection system equipment.

Other initiatives that contributed to enhancing security at Canadian airports and on aircraft included:

- drafting amendments to the Canadian Aviation Security Regulations (CASR) for the screening of non-passengers. The Program involves searching at random non-passengers, such as airline personnel (including flight crew), airport employees, refuelers, caterers, aircraft groomers, maintenance personnel and ground handlers, their possessions and vehicles, where applicable, when entering an airport restricted area or, under certain circumstances, within a restricted area.

- completing an assessment of aviation security policing requirements at selected airports, which will be introduced in 2004.
- completing and implementing the first phase of the Transport Canada Automated Fingerprint Identification System (TCAFIS), which is aimed at enhancing the quality, effectiveness and efficiency of airport security by modernizing the manner in which security clearances are processed. The system is designed to expedite processing times for transportation security clearances for restricted areas at Canadian airports.
- drafting amendments to security regulations related to flight crew procedures and training as part of a commitment to the Senate Committee on National Security and Defence to implement new requirements.

On April 9, 2003, as part of the cabin security enhancement project, Transport Canada also promulgated the reinforced cockpit door regulations, in an effort to harmonize with the international community. With financial support provided through the Cabin Security Enhancement Contribution Program, all 705 Canadian airline operators met the new cockpit door requirements. The purpose of these regulations, in combination with new operator procedures for accessing flight deck areas, is to reduce intrusion into the flight deck by unwanted persons.

Transport Canada also continued to provide financial support to the International Civil Aviation Organization's (ICAO) Universal Security Audit Program. This program is designed to promote aviation security worldwide by evaluating and assisting its 188 Member States in correcting security deficiencies.

Marine Security

Enhancement of marine security is a fundamental component of Canada's overall security and trade relationship with the United States. During 2003, initiatives were implemented to sustain the long-term national marine security program.

Significant progress was made toward adopting and implementing the International Ship and Port Facility Security (ISPS) Code under the 1974 International Convention for the Safety of Life at Sea, which must be in place by July 1, 2004. Key initiatives to comply with the new marine security requirements include:

- development of guidelines for ship and port facility security assessments and plans;
- national stakeholder consultations toward the development of the regulatory framework; and
- development of an oversight, compliance and enforcement program.

The Marine Facility Restricted Area Access Control Program (MFRAACP) was also developed in 2003 to provide a regulatory framework for a national program requiring security background checks for persons needing access to restricted areas (or be escorted) in order to protect critical infrastructure of the marine transportation system.

Security in Other Modes

In the area of rail security, Transport Canada worked with the Canada Customs and Revenue Agency (CCRA), Canadian railways and the U.S. Customs Services (now Border Protection under the new Department of Homeland Security) on a Declaration of Principles for southbound rail processing for security and contraband threats. Transport Canada also met with the Railway Association of Canada and the Federal Railway Administration of the U.S. Department of Transportation to discuss the U.S. security clearance requirements for railway crews transporting explosives and dangerous goods into and within the United States. Further discussions are under way.

On border security, Canada and the United States signed the Smart Border Declaration in December 2001, a framework for the flow of people and goods and the securing of infrastructure, and for the exchange of enforcement information. To implement the declaration, a thirty-point Action Plan was developed. In 2003, Transport Canada continued to address several parts of this plan, under the area of Secure Infrastructure. These responsibilities include infrastructure improvements, intelligent transportation systems, critical infrastructure protection and aviation security.

Emergency Preparedness and National Critical Infrastructure Assurance Program (NCIAP)

In 2003, Transport Canada participated, along with other federal departments, provincial governments and the United States, in simulated exercises — such as TOPOFF II — designed to test Canada's and the United States' preparedness for terrorist attacks. Exercises such as these allow the federal government as well as Transport Canada to improve both domestic and cross-border preparedness for potential terrorist attacks by enhancing cooperation, communication and understanding.

Transport Canada's ability to assist during major events was demonstrated on a number of occasions such as the Ontario blackout, during a shuttle launch, hurricanes Isabel, Kate and Juan, geomagnetic and solar storms, and during the British Columbia and California forest fires. Transport Canada continued to enhance its capability to respond to incidents as a result of its experience during these events.

Transport Canada has been a key player in the development of a framework for the National Critical Infrastructure Assurance Program, which is under the leadership of Public Safety and Emergency Preparedness Canada (formerly the Office of Critical Infrastructure and Emergency Preparedness). The program's objective is to protect Canada's network of physical and computer-based infrastructures, which provide essential energy, transportation, communications as well as safety, financial, health and emergency response services. During the past year, Transport Canada consulted provinces/territories, other federal departments and other governments, such as the United States, to promote and foster collaborative efforts toward harmonization in the assurance of transportation critical infrastructure.

Transportation of Dangerous Goods

Transport Canada continued to develop the Chemical Biological Radiological and Nuclear (CBRN) Response Initiative that was launched in 2002. This initiative, related to the transportation of dangerous goods, will also be integrated into the National Counter-Terrorism Plan. Transport Canada continued to secure access to trained industrial emergency response teams capable of providing CBRN product-related assistance to first responders in the event of a terrorist incident.

TRANSPORTATION AND THE ENVIRONMENT

5

In the federal budget of 2003, \$250 million was set aside for transportation measures under the Climate Change Plan for Canada.

OVERVIEW

Transportation is fundamental to Canada's economic prosperity and Canadians' quality of life. To maintain and improve our competitiveness, Canada must ensure that its transportation system is efficient and responsive to new challenges. To enhance Canadians' quality of life, we also need to ensure that the system is safe, secure and environmentally acceptable. In practical terms, this means that, more and more, Canadians will ask that the transportation system performs its vital role in ways that do not harm human health or the environment.

Sustainable development is a concept that promotes a balance of the economic, social and environmental dimensions of transportation. Making Canada's transportation system more sustainable requires a long-term commitment and coordinated efforts by all levels of government, industry and, most importantly, by individual Canadians. It is not a goal that can be reached overnight.

Creating a truly sustainable transportation system is challenging. In Canada, three levels of government share responsibility for transportation. In general, the federal government is responsible for national, interprovincial and international transportation; provincial governments are responsible for intraprovincial transportation; and, municipalities are responsible for urban transit and local planning decisions. Federal, provincial and territorial Ministers of transportation coordinate activities through the Council of Ministers Responsible for Transportation and Highway Safety.

TRANSPORT CANADA'S ROLE

Transport Canada's primary responsibility is to provide a safe and secure transportation system. It also has authority for certain environmental issues (e.g. *Canada Shipping Act*, *Arctic Waters Pollution Prevention Act*, *Transportation of Dangerous Goods Act*). Transport Canada works with other federal government departments in this area. For example, Transport Canada works with Natural Resources Canada in promoting improvements in road vehicle fuel efficiency, including the introduction of fuel efficiency technologies in new vehicles. Environment Canada is responsible for air emissions through off-road and on-road vehicle and engine emissions regulations.

The federal government strives to improve the environmental management of its operations by mitigating adverse impacts. By reducing its own environmental impacts, Transport Canada seeks to set a positive example for others in the transportation sector. Although the department no longer directly operates many components of the transportation system, it retains the role of landlord and overseer for major components. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its land and facilities.

This chapter provides an overview of key environmental issues pertaining to the transportation sector in Canada. More specifically, it reviews the most recent trends in air emissions and recent developments respecting climate change and urban air pollution. In addition, it highlights initiatives in the areas of clean water and contaminated sites.

ENVIRONMENTAL TRENDS IN TRANSPORTATION

Transportation has a wide range of impacts on the environment. The adverse effects are a function of the stresses associated with transportation, including resource use (materials and energy), undesirable residuals (emissions, spills and leaks) and land use. A range of transportation activities contributes to these stresses, including the construction of infrastructure; road system operations and maintenance; the production, operation, maintenance and disposal of vehicles; and the provision of energy. Consequently, transportation activities contribute in various degrees to a number of environmental problems, including climate change caused by human-induced greenhouse gases (GHGs) emissions, urban smog, decreased water quality and poor land use.

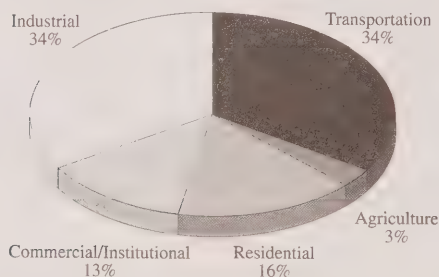
CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

Climate change is an environmental concern on both a domestic and international level. It is caused by GHGs that trap heat reflected from the surface of the planet in the lower atmosphere. Carbon dioxide (CO₂) is the primary GHG and is responsible for about two thirds of climate change.

Emissions from transportation have been growing rapidly, as Canada's economy has expanded and trade has flourished both within Canada and with the United States. This upward trend is projected to continue.

In 2001, total Canadian GHG emissions from secondary energy sources¹ were 473 megatonnes (Mt). Figure 5-1 shows GHG emissions from secondary sources for different sectors of the economy.

FIGURE 5-1: GHG EMISSIONS FROM SECONDARY ENERGY USE IN CANADA, 2001



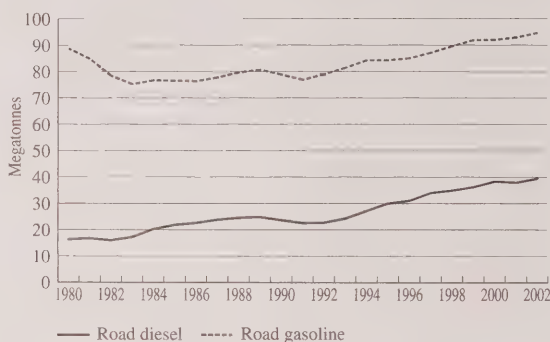
Source: Natural Resources Canada, Energy Efficiency Trends Summary Tables (Canada), OEE Web site

1 Secondary energy is the energy used by the final consumer in the residential, commercial, agricultural, industrial and transportation sectors.

Transportation sources accounted for 34 per cent (163 megatonnes) of the total. Road transportation accounted for the majority of this, with 77 per cent of the total, while aviation accounted for nine per cent. Rail and marine transportation accounted for four and six per cent, respectively.

Figure 5-2 shows that GHG emissions arising from on-road gasoline use were relatively stable for most of the last two decades. It was not until 1998 that gasoline use rose to 1980 levels. Since then, gasoline use has continued to climb. Overall, growth in on-road gasoline use was about seven per cent between 1980 and 2002. Improvements in new car fuel efficiency are largely responsible for this relatively moderate increase. However, car ownership per licenced driver has increased steadily, and people are driving more often and longer distances. Sport utility vehicles (SUVs) and light trucks are increasingly popular.

FIGURE 5-2: ROAD GASOLINE AND DIESEL GHG EMISSIONS, 1980 – 2002

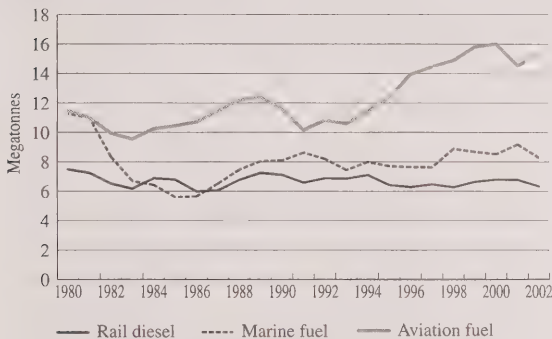


Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

The same figure also shows that on-road diesel fuel use has grown considerably over the last two decades, increasing 140 per cent between 1980 and 2002. This reflects the changing nature of the freight industry due to liberalized trade, deregulation of the freight-carrying industries and the "just-in-time" revolution (the tendency of industry to minimize inventories to reduce costs).

Figure 5-3 shows non-road GHG emissions. Aviation emissions fluctuated between 1980 and 2002 but overall have increased by 33 per cent. It should be noted that aircraft fuel efficiency increased during this period due to new aircraft technology, the use of larger aircraft and increased load factors. Marine GHG emissions declined by 27 per cent over the same period. However, since the mid-1980s, emissions have fluctuated over a relatively narrow band. Rail emissions declined between 1980 and 2002 by roughly 15 per cent. This is impressive, as it occurred at the same time that domestic tonne-kilometres grew. This could be due to several factors: the acquisition of large numbers of new high-performance locomotives during the late 1990s; the adoption of new operating practices; and the rationalization of Canadian National and Canadian Pacific's fleets.

FIGURE 5-3: RAIL, AVIATION, MARINE GHG EMISSIONS, 1980 – 2002



Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

URBAN TRANSPORTATION AND AIR POLLUTANT EMISSIONS

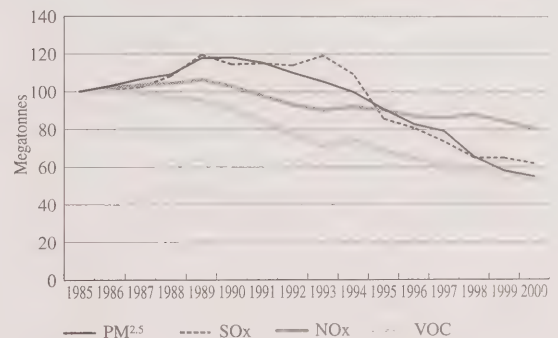
Eighty per cent of Canadians now live in urban areas, making Canada one of the most urbanized countries in the world. Urbanization, together with steadily increasing economic activity originating in urban centres, is putting pressure on the environment.

Vehicle emissions are a significant contributor to air pollution, specifically in Canada's most densely populated centres. Vehicle emissions of nitrogen oxides (NO_x) affect air quality and contribute to urban smog, a major health concern to Canadians. Health studies estimate that air pollution contributes to several thousand premature deaths in Canada each year, as well as to numerous health-related problems, including cardio-vascular ailments and respiratory distress.

Smog is composed of two main ingredients: ground-level ozone and fine airborne particles. Ground-level ozone is produced when NO_x and volatile organic compounds (VOC) react in sunlight and stagnant air. VOC are found in gasoline fumes and solvents. NO_x emissions are produced mostly by burning fossil fuels. NO_x , along with sulphur dioxide (SO_2), also contribute to acid rain. The second main ingredient in smog is fine particulate matter, which is produced during fossil fuel combustion in motor vehicles, power plants and large industries. Industrial processes and solvent use are also major sources of particulate matter.

Figure 5-4 shows the trend in these emissions since 1985. The transportation sector accounts for roughly 52 per cent of total NO_x emissions, 21 per cent of total VOC emissions and six per cent of fine particulate emissions. Fortunately, over the last 15 years, all air pollutant emissions due to the transportation sector have decreased. This decline is largely due to regulations that were introduced to reduce the health impacts of smog and the impact of acid rain.

FIGURE 5-4: AIR POLLUTION EMISSIONS FROM THE TRANSPORTATION SECTOR, 1985 – 2000



Source: Fuel sales from Statistics Canada: Quarterly Report on Energy Supply-Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada: Canada's Greenhouse Gas Inventory 1990-2000, June 2002

Congestion is a major contributor to GHG emissions and other smog-producing air pollutants. Congestion also has economic and social costs. In urban areas and at border points, it is a key obstacle to the efficient movement of international and interprovincial trade and has a significant impact on Canada's transportation infrastructure. Airports, rail yards, ports and intercity highways are usually located in cities and are directly affected by the efficiency of the urban transportation system. Congestion produces important economic costs, estimated to be in the billions of dollars, for the Canadian economy. These costs include loss of time and productivity, lost wages and extra fuel costs. Congestion is expected to increase significantly as the population continues to grow in urban areas.

Low-density settlement, with its reliance on roads, has been an increasing trend in the development of Canadian cities. Although there are benefits of a less crowded, open, green environment, this urban form can increase passenger vehicle use and emissions by increasing commuting travel distance.

CLEAN WATER AND CONTAMINATED SITES

Transportation activities may decrease water quality and have a negative impact on land use. Mitigating transportation-related effects on water quality, improving environmental management and taking action to mitigate the environmental impact of transportation activities are key to protecting the integrity of aquatic and terrestrial ecosystems, avoiding human exposure to hazardous substances, and preserving human enjoyment of the environment. Much land contamination involves leakages from fuel storage tanks that occurred decades ago. Contamination has occurred at urban industrial areas, historical railway developments, old ports, airports, training facilities, military bases and reserves. About 60 per cent of Canada's contaminated sites involve petroleum hydrocarbon (PHC) contamination that, left unaddressed, may pose a threat to human health and the environment.

SUSTAINABLE DEVELOPMENT STRATEGY

In 2003, Transport Canada, like all other federal government departments, developed its third *Sustainable Development Strategy 2004–2006* (SDS). The objective of the SDS is to improve decision-making and to strengthen awareness of the importance of sustainable transportation. The Strategy will help to ensure that environmental considerations are taken into account along with economic and social factors in Transport Canada policies, programs and operations.

The third Strategy provides an opportunity for Transport Canada to demonstrate continued leadership in promoting sustainable transportation. It addresses key federal priorities such as climate change, clean air, clean water, contaminated sites and research and development. Many of the Strategy's commitments will address these priorities within an urban context.

Tabled in Parliament in February 2004, the Strategy defines seven strategic challenges and 32 specific commitments for action over the next three years.

The seven strategic challenges are as follows:

1. Encourage Canadians to make more sustainable transportation choices
2. Enhance innovation and skills development
3. Increase system efficiency and optimize modal choices
4. Enhance efficiency of vehicles, fuels and fuelling infrastructure
5. Improve performance of carriers and operators
6. Improve decision-making by governments and the transportation sector
7. Improve management of Transport Canada operations and lands

To develop this Strategy, Transport Canada drew on the expertise of a national advisory group and other federal departments; consulted the provinces, territories and municipalities; and received input from Canadians from coast to coast. The Strategy represents Transport Canada's plan for making better decisions in partnership with stakeholders in the transportation sector.

The Strategy is available on Transport Canada's Web site at www.tc.gc.ca/programs/environment/sd/sds0406/menu.htm.

CLIMATE CHANGE MITIGATION

The federal government ratified the Kyoto Protocol in 2002, committing Canada to reduce GHG emissions to six per cent below 1990 levels by the year 2010. In February 2003, the federal budget underscored Canada's commitment to take action on climate change. Budget 2003 provided \$2 billion to be allocated among the climate change initiatives in the *Climate Change Plan for Canada*. In August 2003, the government announced the allocation of \$1 billion of Budget 2003 funding. Of that amount, a total of \$161 million has been set aside for transportation measures. The Climate Change Plan, which incorporates Action Plan 2000 on Climate Change, focuses on increasing vehicle efficiency and the production and use of alternative fuels. In addition, important steps have been taken to foster freight efficiency and to enhance passenger choices in urban areas.

The following section briefly highlights key transportation measures.

VEHICLE EFFICIENCY

Motor Vehicle Fuel Efficiency Initiative

The Government of Canada has renewed its commitment to working with automotive manufacturers to develop a new fleet fuel efficiency goal. The government's objective is to improve light-duty vehicle fuel efficiency by 25 per cent by 2010. To assist consumers in making the best environmental choices, the government will enhance public information programs. For example, the federal government launched the "Be Tire Smart" campaign in fall 2003. This campaign is a national public outreach and education initiative designed to encourage Canadian motorists to adopt proper tire inflation and maintenance practices in order to improve the fuel efficiency of their vehicles and prolong tire life, both of which save energy and reduce emissions that contribute to climate change.

Advanced Technology Vehicles Program

The Advanced Technology Vehicles Program (ATVP) is a major part of the Motor Vehicle Fuel Efficiency Initiative. Advanced technology vehicles are vehicles with available, or soon to be available, technologies able to improve fuel efficiency, reduce air emissions and contribute to the development of cleaner, sustainable transportation systems. These vehicles are being evaluated to determine their impact on fuel efficiency, safety and the environment. At the end of 2003, the ATVP fleet included 87 vehicles. Transport Canada's first ATVP annual report was released on July 21, 2003. It found that the public reaction to small urban vehicles is positive. It also reported that, as advanced technology vehicles operate in the same manner as conventional ones, the transition to these vehicles would be largely seamless and transparent to Canadians. Challenges remain to demonstrate that these vehicles are as safe as other larger vehicles in the market. In addition, the availability of these vehicles in the Canadian market might be limited.

ALTERNATE FUELS INITIATIVES

Fuel Cell Initiatives

The Government of Canada, through its Action Plan 2000, is investing \$23 million in the Canadian Transportation Fuel Cell Alliance program to demonstrate and evaluate different fuelling options for fuel cell vehicles. It will also analyze the ways the fuel may be delivered to vehicles, establish safety standards for fuelling stations, and develop training and certification programs for the people who install and maintain those stations.

As part of the August 2003 announcement, \$130 million will be invested in building knowledge and accelerating the development and commercialization of fuel cells and other technologies that will form the basis of the emerging hydrogen economy, including technologies to produce hydrogen from renewable energy sources. Investments will be available to support public- and private-sector partnerships to develop and demonstrate hydrogen technologies and infrastructure in integrated, real-world settings. An additional \$50 million will also be invested in hydrogen economy-related projects from the \$250 million Sustainable Development Technology Canada allocation.

In April 2003, the former Minister of Industry, Allan Rock, released the Canadian Fuel Cell Commercialization Roadmap. The Roadmap identifies how Canadian companies, institutions and governments can plan their investment decisions, industrial development activities, and research and educational programs to accelerate the commercialization of fuel cell and hydrogen technologies, which hold significant potential for environmental benefit and economic opportunity.

Ethanol Expansion

The federal government proposes to work with the provinces, territories and industry to increase the supply and use of ethanol produced from biomass such as plant fibre, corn and other grains. Specifically, the Climate Change Plan goal is to have 35 per cent of our national gasoline supply contain low-level ethanol blends (up to 10 per cent) by 2010. To achieve the Ethanol Expansion Program, \$100 million has been allocated over the 2003 – 2006 period to support new ethanol production in Canada.

Biodiesel

On August 12, 2003, the Government of Canada announced the proposed expenditure of \$11.9 million to support research and to provide incentives for industrial-scale biodiesel pilot plants. These funds also will support demonstration projects to encourage broader use of this cleaner burning alternative to conventional diesel.

Natural Gas

The federal government will also invest \$9.9 million to reduce the cost of natural gas vehicles in urban fleets, such as taxis and delivery trucks. This measure will help to increase demand for these lower-emitting vehicles and encourage manufacturers to increase production of these vehicles.

FREIGHT INITIATIVES

Freight Efficiency and Technology Initiative

This initiative is led by Transport Canada in collaboration with Natural Resources Canada and is designed to reduce the growth of GHG emissions from freight transportation. It consists of three components: the Freight Sustainability Demonstration Program (FSDP); voluntary performance agreements between the federal government and modal associations; and training and awareness for freight carriers. In 2003, the FSDP allocated approximately \$1.89 million for 14 projects. In addition, two new demonstration projects were initiated. The Freight Efficiency and Technology Initiative also co-funded and helped to organize freight-related conferences and workshops to raise awareness of the program and to promote best practices to reduce GHG emissions from the freight sector.

Commercial Transportation Energy Efficiency and Fuels Initiative

The Climate Change Plan includes a new four-year \$54.1 million Commercial Transportation Energy Efficiency and Fuels Initiative, co-led by Transport Canada and Natural Resources Canada. It seeks to reduce the growth of GHG emissions in Canada's commercial transportation sector. Transport Canada's component of this initiative is the Freight Efficiency Program, which focuses on air, marine and rail freight operations and shippers. The program will provide financial incentives for the purchase and installation of efficiency enhancing technologies and equipment. It also includes a marine shore power pilot project to reduce ship idling at terminals and a training and awareness program for shippers and freight forwarders. The Natural Resources Canada component of the initiative focuses on the on-road activities of the commercial transportation sector.

URBAN PASSENGER TRANSPORTATION

The Urban Transportation Showcase Program

The Urban Transportation Showcase Program is a \$40 million initiative to demonstrate and evaluate the impacts of integrated strategies to reduce GHG emissions from urban transportation. The program also evaluates the effects of these strategies on achieving other objectives such as increased energy efficiency, technology testing, cleaner air, reduced operating costs and increased active transportation (see text box Active Transportation). Information from the showcases and on sustainable urban transportation is generally disseminated via learning events, Internet communications, publication of case studies and award grants to encourage the replication of successful strategies.

In 2003, the program evaluated detailed proposals from 15 cities across Canada and announced the selection of eight of these proposals for implementation. Selected showcase proposals came from: Whitehorse, the Greater Vancouver Regional District, Winnipeg, Waterloo, the Greater Toronto Area and the City of Hamilton, Gatineau, Montreal and Halifax. The integrated strategies to be implemented by March 2007 in these cities include bus rapid transit, targeted social marketing, enhanced cycling and walking corridors, hybrid-electric buses, electric station cars, transportation management associations and transit villages. These strategies are being implemented in partnership with local, regional, provincial and territorial governments, non-profit groups, the private sector, and education and research institutions.

Throughout 2003, the program's Information Network sponsored learning events and recognized achievements that focused on air quality, land use, smart growth, congestion pricing and climate change. Sponsored awards were presented to the City of Calgary's Transportation Solutions Group and to the City of Ottawa for its O-Train project.

ACTIVE TRANSPORTATION

Active transportation is non-motorized transportation, including travel modes such as walking, bicycling and manual-powered wheelchair. Active transportation is also an effective remediation option for the reduction of traffic congestion in urban centres that can lead to an overall reduction of automobile emissions and GHG emissions.

The Federation of Canadian Municipalities (FCM) has developed a guide for implementing and promoting active modes of transportation such as walking, cycling and in-line skating in Canadian communities. It is a comprehensive and practical resource that helps communities across Canada make active transportation a bigger part of their response to everyday transportation challenges like air pollution. The FCM partnered with Transport Canada, Health Canada and Environment Canada on this project. The guide can be found at <http://kn.fcm.ca>.

Moncton, New Brunswick, is one of Canada's fastest growing cities. As such, there is an increasing strain on its social, physical and environmental systems. In response, the city has developed a linear park and greenway network to apply a sustainable development approach toward the preservation of critical habitat spaces and trails. As part of this, Moncton began work on the Millennium Trail (a pathway surrounding the municipality that links many communities to parks and other important civic and business destinations). These initiatives led the city's environmental committee to consider future health, active living and transportation needs. This in turn led to the formation of the Active Transportation committee, which was charged with developing an Active Transportation Plan.

Still being refined and implemented, the plan has the potential to transform the City of Moncton from an automobile-reliant community to a place where motorists, public transit riders, walkers, cyclists and others share a common vision for future transportation desires and needs. The plan provides a framework for integrating user desires for the various modes of getting around with desired community destinations and represents a significant initiative in the development of sustainable transportation.

Infrastructure

In keeping with the commitments in the September 30, 2002, Speech from the Throne regarding modern infrastructure and a new strategy for a safe, efficient and environmentally responsible transportation system, the Government of Canada proposed to place a greater emphasis on public transit in existing and future infrastructure funding. This will be done in conjunction with municipal efforts to establish supportive transportation management and land-use planning frameworks, and significant provincial and territorial actions to increase demand for public transit and reduce single-occupant vehicle use.

The August 12, 2003, announcement referenced the \$3 billion infrastructure investment outlined in the federal Budget 2003, as a further source of effort to reduce GHGs. These funds will be delivered through the Canada Strategic Infrastructure Fund (CSIF) and the Municipal-Rural Infrastructure Fund (MRIF), managed by Infrastructure Canada.

Transportation projects (road, transit, rail) are approved by the Minister responsible for Infrastructure, with analysis and advice from Transport Canada. All transportation projects under CSIF are negotiated jointly and implemented by Transport Canada.

Air Quality

In 2003, Environment Canada continued to make significant progress in implementing new regulatory measures under the Federal Agenda on Cleaner Vehicles, Engines and Fuels. On January 1, 2003, the On-Road Vehicle and Engine Emission Regulations were published under the *Canadian Environmental Protection Act* (CEPA), 1999. They became effective January 1, 2004. As these cleaner vehicles are introduced into the Canadian fleet they will result in progressively reduced annual emissions of smog-forming pollutants. The regulations ensure that 2004 and later model year on-road vehicles and engines will be designed to meet progressively more stringent emission standards in alignment with corresponding U.S. federal emissions rules. The regulations apply to light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, heavy-duty vehicles and motorcycles.

The above regulations were complemented by the previous adoption of the Sulphur in Diesel Fuel Regulations (2002) to reduce the maximum sulphur content of on-road diesel fuel to 15 parts per million beginning in 2006 in order to ensure the effective performance of advanced vehicle/engine emission control systems. Together, the two regulations are estimated to have the following emission reductions from the fleet of on-road vehicles operating in Canada in 2020: NO_x (-73 per cent), particulate matter (-64 per cent), carbon monoxide (-23 per cent) and VOC (-14 per cent). These measures will also result in decreased emissions of several pollutants, which have been declared "toxic" under CEPA 1999, such as benzene and acetaldehyde.

In November 2003, Environment Canada published the final Off-Road Small Spark-Ignition Engine Emission Regulations, the first of a series of planned regulations to reduce emissions from engines used in variety of off-road applications. Other off-road engine emissions regulations under development will address diesel engines such as construction and agricultural machinery, personal watercraft and recreational vehicles such as snowmobiles and all-terrain vehicles.

Clean Water

Transportation-related water pollution remains an important issue. The federal government aims to protect the integrity of aquatic and terrestrial ecosystems, avoid human exposure to hazardous substances and preserve human enjoyment of the environment. In 2003, for example, the federal government continued to prevent, detect and respond to marine pollution incidents through a national marine spill preparedness and response system. It participated in and contributed to the development of new regulations through meetings of the International Maritime Organization (IMO). Amendments to the Dangerous Goods Shipping Regulations have resulted in a greater consistency between Canadian dangerous goods regulations and international marine pollution agreements. These regulations require clear identification of marine pollutants to minimize accidental pollution and proper marking and labelling of packages.

During 2003, Transport Canada established an inventory of all its owned and operated facilities that provide drinking water. Transport Canada also worked with an Interdepartmental Drinking Water Committee to develop a draft federal drinking water program, which will be completed in the near future.

Although existing legislation does not specifically require water monitoring, federal, provincial and municipal laws do specify water quality standards and guidelines to be followed by industry. To ensure that airport effluent does not negatively impact on the environment, Transport Canada airports have implemented a program of sampling and analyzing stormwater from airports throughout Canada.

CONTAMINATED SITES MANAGEMENT PLAN

Budget 2003 provided funding over five years (\$75 million for the first year and \$100 million per year for the four subsequent years) to accelerate the clean-up of federal contaminated sites in Canada. It is expected that this funding will reduce federal liabilities through the care and maintenance of abandoned mines in the North and the remediation of high risk contaminated sites and the advancement of remediation on many others.

In July 2003, each federal department and agency, including Transport Canada, submitted a five-year departmental contaminated sites management plan to Treasury Board as required in the newly enacted Federal Contaminated Sites Management Policy.

The plan provides a common framework for prioritizing and selecting sites for further action, assisting in identifying contaminated site funding requirements, and will contribute to sustainable development. It will be updated annually to reflect departmental priorities, technology advancements and availability of resources.

PROVINCIAL/MUNICIPAL INITIATIVES

The provinces and territories are responsible for most aspects of highways, vehicle licensing and inspection. Municipal governments manage urban planning and local transportation systems, including urban roads, bridges and public transit. Consequently, each of these levels of government contributes to a sustainable transportation system. The following are some examples of initiatives that have been conducted in 2003 in the provinces and/or municipalities to improve sustainability of the transportation system.

Saskatchewan

The Saskatoon Transit Service and Saskatchewan Highways are testing a canola-oil blend "biodiesel" in portions of their fleets. Expected results include reduced diesel fuel consumption, reduced NO_x/VOC emissions, and significantly reduced vehicle engine wear. The City of Regina and Saskatchewan Energy have converted their vehicle fleets to compressed natural gas. Further, Saskatchewan Energy has established several natural gas vehicle-fueling stations in the province to serve the public. The use of compressed natural gas reduces petroleum consumption and vehicle emissions.

Manitoba

On April 16, 2003, the Province of Manitoba released the *Preliminary Hydrogen Opportunities Report*. This report examines the future use of hydrogen and outlines possible opportunities in the area of hydrogen development for Manitoba. In addition, in 2003, the Sustainable Development Innovations Fund approved grants for two projects to be conducted. A grant of \$25,000 was provided to design, develop and test biodiesel fuels in transit buses in Canadian prairie conditions. A grant of \$8,500 was provided to assess the implementation of alternative fuels in fleet vehicles within the Red River Valley Region (both the Canadian and U.S. portions) in order to promote increased use of alternative fuels within the region.

Ontario

Ontario's tax rebate program for vehicles powered by alternative fuel provides purchasers or long-term lessors of qualifying vehicles with a retail sales tax rebate of up to \$1,000. In the 2003 Ontario Budget, the government proposed to double the retail sales tax rebate for qualifying alternative fuel vehicles to a maximum of \$2,000. Certain hybrid electric passenger cars are also eligible for this rebate. In addition, the Ontario government announced a 10-year plan to expand and renew Ontario's transit infrastructure. This included: \$1 billion for GO Transit base capital needs; \$750 million for the municipal transit renewal program; \$1.25 billion for inter-regional transit expansion in the Golden Horseshoe Region; and \$250 million for strategic transit expansion projects in urban areas outside the Golden Horseshoe Region. The 2003 Budget also included an announcement that the province would provide funding toward a new GO Transit bus rapid transit network.

Quebec

The Société de Transport de Montréal completed a pilot test using 20 per cent biodiesel blend fuels in their transit buses. Fuel feedstock was from used restaurant grease, animal fats from rendering plants and virgin vegetable oils. The BIOBUS project demonstrated that it is viable for public transit authorities to use biodiesel and that significant reductions in both GHG and air pollutants are possible. At its April 2003 convention, the Association québécoise du transport et des routes honoured the BIOBUS project with its environmental award for technical achievement.

New Brunswick

In 2003, New Brunswick's Department of Transportation released its Strategy Plan for 2002 – 2005. The plan identified nine strategic goals, one of which is to be environmentally responsible and proactive in all departmental activities. Its objectives are to: integrate the concepts of continuous improvement, environmental protection and pollution prevention in all aspects of the department's work; take special steps to protect the environment surrounding the department's maintenance facilities; ensure all field staff have appropriate training in environmental protection; investigate new, environmentally responsible technologies and methodologies; and cooperate with the federal government, the provincial Department of Environment and local governments and others in educating the public on the need for reducing transportation-related GHG emissions. The department will also monitor and measure progress on implementation of its road salt management initiatives and its environmental planning for proposed highway projects that fall under environmental impact assessment legislation.

TOWARD A SUSTAINABLE TRANSPORTATION SYSTEM

The activities reported in this chapter show that efforts are being taken at all levels of government to promote a more sustainable transportation system. A safe, secure, efficient and environmentally responsible transportation system is critically important to Canada's overall economic and social well-being. Much progress is being made. However, much more is required to ensure a sustainable transportation system for current and future generations.

RAIL TRANSPORTATION

6

Although a modest amount of track was transferred in 2003, none was discontinued. Railway revenues increased slightly, while continuing productivity gains again resulted in declining freight rates.

MAJOR EVENTS IN 2003

Due to a grain harvest significantly below historical levels in 2002, Canadian railways saw movements of grain drop by about 24 per cent from 2001. Grain movements increased only slightly in 2003.

Overall traffic levels declined by about one per cent. Rationalization activity and changes in industry structure were again minimal.

Canadian National (CN) was successful in its bid to acquire BC Rail.

INFRASTRUCTURE

There was relatively little change in the structure of the Canadian rail system in 2003. As no track was discontinued, there was no aggregate change in the size of the overall rail network. Only a moderate amount of track was transferred. Most of the activity centred on the transfer of almost 400 kilometres of track in Quebec and about 330 kilometres of track in Saskatchewan to other operators. In Quebec, track and facilities previously owned by Canadian American and Quebec Southern Railway was transferred to Montreal, Maine and Atlantic Railway, while in Saskatchewan, CN transferred track to a railway called Prairie Alliance for the Future.

Table 6-1 shows the distribution of trackage by key carriers and carrier groups in 2003.

As has been noted in previous annual reports, there was explosive growth in the number and activity of shortlines in Canada in the second half of the 1990s. From modest beginnings in the late 1980s, the number of shortlines formed in Canada grew slowly during the early 1990s and then quite dramatically following the enactment of the *Canada Transportation Act 1996*. Before 1996, 11 new shortlines had formed; between 1996 and 2000, 37 new shortlines were created. Only a few new shortlines have been created since 2000, however, suggesting that the sector has reached a plateau. Undoubtedly, transfers will occur in the future but it is unlikely that the rapid growth of a few years ago will be repeated.

Approximately 9,400 kilometres of rail line were discontinued between 1990 and 2003. Most of this was discontinued fairly equally by CN and Canadian Pacific Railway (CPR). In aggregate, almost 60 per cent of all discontinuances in this period occurred in Ontario, Saskatchewan and Alberta. Over this period, about 12,700 kilometres of track was transferred, predominantly from CN and CPR to newly formed shortline carriers. Only a small amount of track was transferred between other carriers. In 2003, however, the amount of track transferred between shortlines exceeded that between CN, CPR and the shortline sector. Of the total amount of track

TABLE 6-1: RAILWAYS IN CANADA, 2003

	2003 Owned / Leased Route- Kilometres	2002 Owned / Leased Route- Kilometres ¹	Per cent of Total (2003)	Percentage Change Over Previous Year
CN Rail	18,561	18,887	38.0	(1.7)
CP Rail	13,447	13,459	27.5	(0.1)
Regional and Shortline Railways	16,059	15,716	32.8	2.2
All Others ²	843	846	1.7	(0.4)
Total	48,909	48,909		0.0

Notes: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.

Totals may not add up due to rounding.

1 2002 figures revised slightly to reflect improved data.

2 Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Source: Transport Canada

transferred between 1990 and 2003, about one third originated with CPR and two thirds with CN.

Table 6-2 shows rationalization activity in the rail sector in 2003 and from 1990 to 2003.

TABLE 6-2 RAILWAY RATIONALIZATION IN CANADA

		2003	1990 – 2003
		<i>Rationalization</i>	<i>Rationalization</i>
Discontinuances	CPR		4,244
	CN		4,353
	Other		839
	Total		9,437
Transfers	CPR	13	3,829
	CN	339	8,002
	Other	397	864
	Total	748	12,695
Total	CPR	13	8,073
	CN	339	12,355
	Other	397	1,703
	Total	748	22,131

Note: Totals may not add up due to rounding.

Source: *TransportCanada*

Since 1990, 22,131 kilometres of line have been rationalized, leading to major changes in the structure of Canada's rail industry. CN and CPR remain the dominant carriers (accounting for 85 per cent of industry activity and revenues) but they operate only about two thirds of the total domestic rail network, significantly less than the 90 per cent they operated a decade ago. This may change somewhat as regional railways previously owned by provincial governments are sold. The proposed CN acquisition of Ontario Northland Railway did not occur, although CN was recently successful in acquiring BC Rail. The acquisition must still be approved by the Competition Bureau.

While it is expected that both CN and CPR will continue to rationalize their networks, it is likely that second-order rationalization (the rationalization of track acquired by shortline or other operators from CN or CPR) will also continue.

Addendum tables A6-1 and A6-2 give further details of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

The number of carriers more than doubled in the 1990s, changing the character of the Canadian railway industry dramatically. Nonetheless, CN and CPR continue to account for most of the revenues in the rail industry. In 2002, rail industry revenues totalled \$8.2 billion; 88.5 per cent of this was generated by the Class I carriers, CN, CPR and VIA Rail. This was down slightly from the 90.5 per cent share in 1990. However, revenues for the Class I carriers grew at an annual rate of 1.3 per cent over the 1990 – 2002 period. On the other hand, revenues of the regional railways (BC Rail, Algoma Central,¹ Ontario Northland, Cartier Railway and the Quebec North Shore & Labrador) declined by 0.3 per cent per year. The shortline sector saw significant growth in its revenues, from about \$95 million in 1990 to about \$392 million in 2002. This was an annual growth rate of 12.5 per cent, which translated into a relative increase in the shortline sector's proportion of rail industry revenues from 1.5 to 5.0 per cent.

Table 6-3 compares revenues in the railway sector in 2001 and 2002. Addendum Table A6-3 shows revenues since 1990.

TABLE 6-3: RAILWAY REVENUES, 2001 AND 2002

(Millions of dollars)		
	2001	2002
CN	3,917	3,971
CPR	2,950	2,943
VIA Rail	399	407
Subtotal Class I	7,266	7,321
Regional ¹	495	502
Shortlines ¹	384	392
Total	8,145	8,215

¹ Estimated for several carriers.

Source: *Transport Canada, Statistics Canada*

VIA Rail continues to dominate the intercity rail passenger sector, with about 95 per cent of total passenger revenues. Also providing intercity rail passenger services are Algoma Central, Ontario Northland and the Quebec North Shore & Labrador. Amtrak, the U.S. passenger rail corporation, offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail). The Great Canadian Railtour Company offers seasonal services between Vancouver and Calgary and Jasper.

¹ This is the final year that Algoma Central will be recognized as a separate entity for operating and financial reporting purposes. All reporting has now been integrated under CN Rail.

EMPLOYMENT

The level of railway employment has been declining significantly for many years (see Addendum Table A6-4). Between 1990 and 2002, railway employment fell 4.8 per cent per year, from more than 67,000 to about 37,000. Employment at Class I carriers dropped 48 per cent over this period, or 5.2 per cent per year. It also dropped at regional rail carriers, albeit at a lower rate (4.5 per cent) and from a smaller base (about 5,600 in 1990 to 3,260 in 2002). In contrast, employment in the shortline sector jumped 260 per cent, for an annual growth rate of 11.3 per cent. In 2002, the shortline sector employed approximately 2,000 people. Consistent with these changes are the relative levels of participation in the rail sector by each class of carrier. The Class I carriers dropped from about 91 per cent of total rail industry employment in 1990 to about 86 per cent in 2002. The regional rail carriers stayed roughly the same in relative terms, while shortline employment grew from a virtually non-existent proportion to about five per cent of the total rail industry employment.

Table 6-4 compares the level of employment in the rail industry in 2001 and 2002.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2001 AND 2002

	2001	2002
Class I	34,016	32,005
Regional ¹	3,710	3,258
Shortline ¹	2,090	2,014
Total	39,816	37,278

Note: Totals may not add up due to rounding.

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

Although they still accounted for 90.8 per cent of total sector fuel consumption in 2002, Class I railways (including VIA Rail) have significantly increased their fuel efficiency since 1990. In that year, they consumed about 1.9 billion litres of fuel, compared with 1.8 billion litres in 2002 (see Addendum Table A6-5). Over this same period, however, output in terms of revenue tonne-kilometres (RTKms) increased by 30 per cent, from about 225 billion to about 293 billion RTKms (see Addendum Table A6-6). Three main factors accounted for this increased fuel efficiency: important investments by CN and CPR in new locomotive replacement programs in the latter half of the 1990s; changes in operating practices; and a reduction in operations over low-density lines, which for the most part were transferred to other operators.

Table 6-5 compares output in the railway sector in 2001 and 2002.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2001 AND 2002

	2001	2002
Class I	292,916.6	292,195.7
Regional ¹	20,847.5	19,773.3
Shortline ¹	8,719.8	9,980.5
Total	322,483.9	321,949.5

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Table 6-6 compares fuel consumption in the railway sector in 2001 and 2002.

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2001 AND 2002 (MILLIONS OF LITRES)

	2001	2002
Class I	1,772	1,808
Regional ¹	139	125
Shortline ¹	89	85
Total	2,000	2,019

Note: Totals may not add up due to rounding.

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Fuel consumption and output of the regional railways have both remained relatively stable in recent years. Until recently, their fuel efficiency has been higher than Class I railways. However, this has been largely due to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway, which, as a result of the nature of its operations, has experienced fuel efficiencies almost double the industry norm.

FREIGHT TRANSPORTATION

The overall output of railways operating in Canada increased between 1998 and 2001. From 2001 to 2002, however, it decreased slightly, due to the combination of CN's 2.0 per cent increase to 171.5 billion tonne-kilometres and CPR's 3.3 per cent decline to 120.7 billion tonne-kilometres. Class II carriers reported a combined output of 29.7 billion tonne-kilometres in 2002, a decrease of almost 2.5 per cent from 2001 and 10 per cent since 2000. This decrease was largely due to a decline in iron ore traffic.

Since 1996, movements of traffic forwarded to CN and CPR from Canadian Class II carriers have increased. From 2000 to 2001, however, such movements decreased slightly from 18.9 to 18.5 million tonnes, mainly due to a drop in coal traffic from BC Rail. In 2002, this traffic rebounded up to 19.5 million tonnes. Rail movements in which Canadian Class II carriers received traffic from CN and CPR dropped for the second year in a row, to slightly more than eight million tonnes in 2002. Traffic originating on a Canadian Class II carrier and then forwarded to CN or CPR and subsequently forwarded to another Canadian Class II carrier to be terminated totalled 0.35 million tonnes in 2002. This was a 27 per cent decrease from 2001. The latter traffic, because it involves a bridge movement over CN or CPR, has both a forwarded and received component and would be double-counted if it was included in either forwarded or received traffic. Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1990.

Based on data for three quarters of 2003, CN output is expected to decrease slightly to 157 billion tonne-kilometres while CPR output is expected to increase to 126 billion tonne-kilometres.

RAIL FREIGHT TRAFFIC — COMMODITIES

Annual rail loadings for 2003 decreased slightly to 259.8 million tonnes (not including receipts from U.S. connections). See Addendum Table A6-9 for details. Volumes in Western Canada dropped two per cent to 137.5 million tonnes, while volumes in Eastern Canada increased one per cent to 122.3 million tonnes. Principal commodities loaded in Western Canada included coal, fertilizer materials, forest products and grain; dominant loadings in Eastern Canada were iron ore, other ores and mine products, forest products and intermodal shipments.

GRAIN

Grain shipments decreased in 1998 and 1999 to as low as 26.5 million tonnes and then rose to just over 30 million tonnes in 2000 and 2001. In 2002, grain shipments fell again, dropping by 28 per cent to 22 million tonnes before increasing only slightly in 2003 to 22.8 million tonnes. Shipments dropped three per cent in the West but almost doubled in the East.

COAL AND COKE

Coal and coke shipments increased significantly in 1999 but dropped 11 per cent in 2002 to just below 37 million tonnes and 14 per cent in 2003 to 31.7 million. This is the lowest volume ever reported for this commodity group.

FOREST PRODUCTS

Following a decline to just above 16 million tonnes in 1998, volumes of non-processed forest products remained steady until 2002, when shipments increased to 19 million tonnes. In 2003, however, this commodity dropped slightly to 17.5 million tonnes. The volume of processed forest products, in contrast, has increased each year, reaching 25 million tonnes in both 2002 and 2003. The net result has been a relatively stable volume of forest products, hovering around 40 million tonnes until 2002, when loadings reached 45 million tonnes. In 2003, total forest product loadings decreased four per cent to 42.6 million tonnes.

ORES AND MINE PRODUCTS

In 2001, shipments of iron ore dropped to just below 29 million tonnes. Since then, this commodity has been increasing only slightly, reaching 33 million tonnes in 2003. Other ores and mine products decreased nine per cent to 23.2 million tonnes in 2003, after four consecutive years of growth.

FERTILIZER MATERIALS

After a drop in shipments of fertilizer materials in 2001, they rose almost seven per cent in 2002 and then six per cent in 2003 to reach 27.6 million tonnes, close to the highest reported value in the last 12 years.

INDUSTRIAL PRODUCTS

Chemicals, the largest commodity of this group, decreased four per cent to 14.4 million tonnes in 2003. After a 10 per cent increase in 2002, metals remained steady near 10.6 million tonnes. Loadings of automobiles and parts reached a high of 5.3 million tonnes in 2003 (a two per cent increase), as did petroleum products, at 14.4 million tonnes (a five per cent increase).

INTERMODAL

Addendum Figure A6-1 shows trends in intermodal traffic over the last several years. Between 1996 and 2002, CN and CPR intermodal tonnage grew by 9.2 million tonnes, an average annual growth rate of 7.1 per cent. North American intermodal traffic was very robust, as growth exceeded eight per cent per year over the same period (except for 1998). As Addendum Figure A6-2 shows, volumes of Canadian origin–destination increased at an even higher average annual growth rate of almost 10 per cent over this period. There was a significant difference in growth between rail intermodal exports and imports to/from offshore regions: exports increased by an annual average of 2.3 per cent, while imports grew by 9.3 per cent per year.

Growth in total rail intermodal volumes was significant between 2001 and 2002 (10 per cent) after only a small growth the year before. Volumes of North American traffic remained strong, increasing by nine per cent and accounting for 44 per cent of total rail intermodal volumes (see Addendum Figure A6-3). Volumes of Canadian origin–destination increased by 8.5 per cent during the year, making up 37 per cent of total market share.

As Addendum Figure A6-4 shows, containers on flat cars (COFC) continued to increase their market share, accounting for more than 92 per cent of total intermodal volumes in 2002. This is up considerably from 1996, when COFC only accounted for 77 per cent of total intermodal traffic. This increase came at the expense of trailer on flat car (TOFC) volumes, which decreased proportionately.

RAIL FREIGHT TRAFFIC BETWEEN CANADA AND THE UNITED STATES

Addendum Table A6-10 shows rail export and import volumes by commodity since 1996. In 2003, export rail tonnage increased 6.2 per cent to 70.8 million tonnes. Forest products remained the largest contributor to export tonnage, increasing slightly to 25.9 million tonnes. Other major export commodities included chemicals and fertilizer materials, which accounted for 18.8 million tonnes, or 27 per cent of total export tonnage in 2003. Although exports of iron ore decreased in 2003 from 0.4 to 0.3 million tonnes, movements of this commodity by rail remained well above the norm. Grain and coal each experienced a decline (21 and 24 per cent, respectively), while mine products (other than iron ore) increased almost 32 per cent.

Addendum Table A6-11 shows rail export and import values by commodity since 1996. Automotive has consistently been the largest contributor to the value of exports, accounting for 53 per cent in 2003, followed by forest products at 20 per cent. Automotive exports decreased 6.7 per cent, while forest products increased 4.7 per cent, resulting in an overall decrease in the value of exports to \$72.6 billion.

Ontario remained the largest contributor to the volume and value of rail exports in 2003, originating 19.7 million tonnes (28 per cent of total volume) and \$48.8 billion (67 per cent of total value).

British Columbia and Saskatchewan were other major contributors of export volume, originating a combined 24 million tonnes, or 34 per cent of total exports. Quebec and British Columbia followed Ontario with a combined \$13.4 billion, 18.5 per cent of total export value. See Addendum tables A6-12 and A6-13 for export volumes and values by province of origin.

Although import rail tonnage increased at a higher rate than exports since 1996, it dropped in 2002 to 19.1 million tonnes before increasing again in 2003 to 20.5 million tonnes. Major commodities included chemicals, agricultural and food, grains and metals. In combination, these commodities accounted for 59 per cent of total import volume.

Automotive imports dropped 16 per cent, declining for the first time in eight years to just over one million tonnes. This correlated to a 13 per cent drop by import value to \$12.6 billion. Automotive, however, still remained the top commodity, accounting for 51 per cent of import value.

As Addendum Table A6-14 shows, Ontario received 10.9 million tonnes in 2003, 53 per cent of imports by volume. An overall increase of import volume cleared in Alberta since 1996 places it ahead of British Columbia. Combined, Alberta and Quebec cleared 6.5 million tonnes of imports in 2003. In terms of value, Ontario was also the dominant province of clearance, with \$17.2 billion, a 9.2 per cent decrease from 2002 (see Addendum Table A6-15).

Addendum tables A6-16 to A6-19 provide more details on exports and imports. These tables show major commodities originating from and cleared in the provinces mentioned above.

BORDER CROSSING POINTS

As Addendum Table A6-20 shows, Fort Frances and Sarnia, both in Ontario, were the dominant border crossing points for rail exports by volume in 2003, accounting for 19.4 per cent (13.8 million tonnes) and 16.6 per cent (11.7 million tonnes) of exports, respectively. Forest products, fertilizer materials and chemicals were the major commodities exported at these border points.

As Addendum Table A6-21 shows, Sarnia and Windsor were the dominant border crossing points for exports by value in 2003, accounting for 36.7 per cent (\$26.8 billion) and 22.1 per cent (\$16.0 billion), respectively. Automotive products were the top commodity exported at these locations, followed by metals and forest products.

Sarnia was also the leading border crossing point for import tonnage, handling 4.2 million tonnes, or 20 per cent of total rail import volume in 2003 (see Addendum Table A6-22). The major commodities imported at Sarnia were agricultural and food products (other than grains) and chemicals. Other major locations as ports of clearance included Toronto, Sault Ste. Marie, Edmonton and Montreal. A decline in rail traffic through Huntingdon, B.C., resulted in a drop of import tonnage cleared by this port in 2002 and 2003.

The value of imports cleared in Windsor declined for the second year in a row (by 30 per cent from 2002 to 2003), making Toronto the top port of clearance by value, at \$4.6 billion. Valuable commodities cleared in Toronto included automotive and chemicals. Addendum Table A6-23 shows rail imports by value and port of clearance.

OVERSEAS TRADE

Class I railways carried 82 million tonnes of goods to and from Canadian ports in 2002, an 11 per cent decrease from 2001. Traffic in transit to and from the United States increased by 13 per cent in 2002 to 4.3 million tonnes. Addendum Table A6-24 shows the fluctuation of rail-marine exports and imports since 1996.

Although rail-marine exports originating from British Columbia, Alberta and Saskatchewan declined in 2002, these provinces continued to be the major contributors, with a combined 59.5 million tonnes. Addendum Table A6-25 shows rail-marine exports since 1996 for all provinces of origin and the United States.

Coal traffic fell to 28 million tonnes in 2002, an 11 per cent decrease, and rail-marine exports of grain fell to 15.4 million tonnes, an almost 34 per cent decrease. Fertilizer materials, however, another major rail-marine export, rose to 9.6 million tonnes in 2002, a 14 per cent increase. Addendum Table A6-26 shows rail-marine exports by commodity since 1996.

Rail-marine imports of Class I carriers increased slightly in 2002 to 8.8 million tonnes, of which 89 per cent consisted of intermodal traffic.

Ontario and Quebec remained the top two destination provinces for rail-marine imports in 2002, totalling 5.2 million tonnes (59 per cent of the total). This was a slight increase from 2001. Rail-marine imports destined for the United States also increased, to 2.7 million tonnes. The volume of goods destined for Alberta continued to drop, down 5.7 per cent to 0.45 million tonnes in 2002. Addendum Table A6-27 shows rail-marine imports since 1996 for all destination provinces and the United States.

At 0.4 million tonnes in 2002 (a 35 per cent decrease), ores and mine products were the second largest commodity for rail-marine imports. This was still, however, well below intermodal traffic levels. Table A6-28 shows rail-marine imports by commodity since 1996.

PASSENGER TRAFFIC

As Addendum Table A6-29 shows, total passengers carried increased 1.7 per cent and passenger-kilometres increased by 2.8 per cent for intercity rail traffic from 2001 to 2002. The number of VIA Rail passengers increased by 3.0 per cent to 4.0 million and passenger-kilometres increased by 3.0 per cent to 1.5 billion. Addendum Table A6-29 also lists Class II carriers with intercity services, which include Algoma Central, BC Rail, Ontario Northland and the Quebec North Shore & Labrador Railway. Unlike VIA Rail, these carriers experienced a combined 14 per cent decrease in passengers to 0.27 million and a slight increase in passenger-kilometres to 71 million. These fluctuations were due to a large decrease in BC Rail passengers (after dropping rail passenger service in October 2002) and an increase in passenger-kilometres for Ontario Northland.

Commuter rail traffic in Toronto, Montreal and Vancouver rose seven per cent in 2002 to reach 50 million passengers. This change reflects increased riderships in Toronto's GO Transit and Montreal's Agence Métropolitaine de Transports (AMT). Once again, GO Transit represented 70 per cent of commuter rail traffic. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

RAIL FREIGHT CLASS I RAILWAYS

From 1996 to 2002, the revenues of CN and CPR operations in Canada grew by two per cent a year, on average. Some 78 per cent of this growth came from intermodal services; in 1996, these services were generating only one fifth of CN's and CPR's total freight revenues. This revenue growth was achieved in the context of continuously declining rail freight rates since 1996, 1.1 per cent a year. By commodity groupings, the freight rates of mineral bulk commodities declined the most, three per cent a year. Since 1998, reductions of freight rates for agricultural products have been larger than the averages of other commodities.

The reduction of rail freight rates has been made possible by the strong productivity gains of the industry, which have averaged 5.3 per cent a year since 1996. In 2002, productivity increased by 2.4 per cent. These productivity gains allowed the railways to reduce their unit cost annually by 3.1 per cent between 1996 and 2002.

The productivity gains have also allowed CN and CPR to improve their financial results. In 2002, operating income reached \$1.5 billion, with the operating ratio declining at less than 80 per cent. Based on the first three quarters' results in 2003, the combined operating ratio of the two railways rose by five per cent. This was due in part to lower yields. Financial results for the shortline railways deteriorated to levels well below what is necessary to renew assets (see Table 6-7). See tables A2-59 to A2-62 in the Addendum for details.

TABLE 6-7: FINANCIAL INDICATORS OF SHORTLINE¹ RAILWAYS, 2000 – 2002

	2000	2001	2002
Net Fixed Assets in \$M	410.5	447.7	448.7
Operating Revenues in \$M	282.4	328.5	337.6
Operating Expenses in \$M	242.2	286.8	310.4
Net Income in \$M	40.2	41.7	27.2
ROA in %	9.8	9.3	5.6
CTA's Approved Cost of Capital in %	11.8	11.4	11.0

Note: ROA = Return on Assets; CTA = Canadian Transportation Agency

¹ Excludes regional railroads such as BC Rail and Canadian connectors to U.S. railroads

Source: Transport Canada and Statistics Canada

VIA RAIL

Between 1996 and 2002, VIA Rail's own revenues grew by 7.1 per cent a year. This growth resulted from increases in both prices and output, which rose by 5.2 and 18 per cent, respectively. In 2002, changes in prices and output matched these trends. In 2003, however, both prices and output dropped by 0.5 and 8.6 per cent, respectively.

Although VIA Rail's overall productivity declined by 1.3 per cent in 2002, it was still 10.6 per cent higher than its 1996 level. Total unit costs in 2002 increased by 1.4 per cent but remained 3.4 per cent lower than in 1996.

VIA Rail has increased the proportion of total costs it recovers every year since 1992. This proportion reached 49 per cent in 2002, compared with 23 per cent in 1992. More than half this improvement was achieved from cost reductions.

*In 2002, for-hire trucking carrier revenues declined
while bus industry revenues increased.*

MAJOR EVENTS IN 2003

LEGISLATIVE AND REGULATORY INITIATIVES

The *Motor Vehicle Transport Act* (MVTA) was amended in 2003. As a result of the amendments, all motor carriers will require a safety fitness certificate in order to operate on Canadian roads. Proclamation of the amended MVTA is expected at the beginning of 2005.

The Motor Carrier Safety Fitness Certificate Regulations are new regulations proposed as a result of the amendments to the MVTA. They were published in the *Canada Gazette* Part I on May 3, 2003. Under these new proposed regulations, provinces and territories would monitor the safety performance of all extraprovincial motor carriers and extraprovincial bus companies licensed in their jurisdiction. They would maintain a complete safety compliance profile of each motor carrier and bus company, using input from all jurisdictions in which they operate. All carriers would receive an initial safety fitness certificate of "Satisfactory — Unaudited" until their safety performance is known and/or a facility audit is completed. A carrier rated "Unsatisfactory" could be prohibited from operating on Canadian roads. The target date for implementing the new Motor Carrier Safety Fitness Certificate Regulations is January 1, 2005.

The national Task Force on Vehicle Weights and Dimensions Policy continued to represent Canada in regulatory harmonization discussions being conducted under the North American Free Trade Agreement (NAFTA) Land Transport Standards Subcommittee.

Special Permit Conditions — The Atlantic provinces began consultation with stakeholders on harmonizing the conditions applicable to special permits required to move oversize and overweight vehicles and loads. Similar work continued in the Western provinces as follow-up to two regional agreements in this area endorsed in late 2002. Work also began on assessing the feasibility of developing training materials and guidance information for drivers of vehicles escorting oversize and overweight vehicles.

At the national level, a Task Force began work on developing common permit guidelines for operation of tridem drive truck tractors. In addition, Quebec and Ontario completed research on the impacts of new designs of wide single tires on highway infrastructure. While a single wide tire offers advantages for fuel efficiency, productivity and vehicle stability, its pavement wear characteristics in Canadian conditions are still being examined.

On February 15, 2003, revisions to the federal regulations of the hours of service rules for commercial vehicle drivers (bus and truck) were published in the *Canada Gazette* Part I. The proposed changes would apply to extraprovincial carriers. The final revised regulations are to be published in the *Canada Gazette* Part II in 2004, after which provincial/territorial jurisdictions could consider implementing comparable hours of service regulations to provincial carriers.

In the United States, new regulations governing hours of service were adopted in 2003 and came into effect in January 2004. The new hours-of-service rules provide commercial truck drivers a work and rest schedule that is expected to significantly reduce driver fatigue. The basic requirements of the regulations are a maximum of 13 hours driving, 14 hours on-duty and 10 hours off-duty, of which eight hours must be consecutive, in a 24-hour period. Similarly, truckers may not drive after being on duty for 70 hours in a seven-consecutive-day period or 120 hours in a 14-consecutive-day period. This on-duty cycle may be restarted only after a driver takes a "weekend" off, that is, at least 36 consecutive hours off duty before "resetting the clock to zero" for the 70-hour cycle and a minimum of 72 consecutive hours off-duty for the 120-hour cycle.

In December 2002, the Senate Standing Committee on Transportation and Communications released a report entitled *Intercity Bus Service in Canada* (see the 2002 *Annual Report* for details on the Committee's recommendations). In terms of reaction to the report, provinces and stakeholders remain divided on the liberalization of economic regulation, with some strongly opposed to change. There is less opposition to the Committee's recommendation of a transitional reverse onus regime, but no real enthusiasm for it either. In 2003, only British Columbia reported administrative changes that streamlined the existing bus regulations.

OTHER EVENTS OF SIGNIFICANCE

Border security — New border security measures were introduced by various U.S. agencies in 2003. These included the introduction of new requirements for the transportation of explosives; prior notification requirements on food shipments; and the publication of rules for the advanced electronic filing of cargo information. Enhanced screening, including widespread use of Vehicle and Cargo Inspection Systems (VACIS), has been put in place at the Canada–U.S. border.

Rising Canadian dollar — The appreciation of the Canadian dollar in 2003 resulted in a decrease in exports to the United States and increases of costs encountered in U.S. dollars. Consequently, some transborder trucking rates had to be adjusted upward or currency surcharges introduced.

Rising costs — Upward pressure on insurance premiums were observed in 2003, a situation explained by the declining number of companies offering truck insurance and the rising cost of awards. The cost of diesel fuel also rose in 2003, in part as a result of the war in Iraq. Carriers coped with rising costs through the introduction of surcharges and increases in rates, both delimited by the prevailing market competitive forces.

BSE — The discovery of a case of bovine spongiform encephalopathy (BSE), or mad cow disease, in Alberta on May 20, 2003, led to a significant drop in export beef shipments. Significant restrictions to the exports of Canadian beef were still in place by year-end. Many cattle haulers in Western Canada shifted to hauling other freight, which put additional downward pressures on rates, changed backhaul load availability within the market, and hit the smaller specialized carriers particularly hard.

SARS — In 2003, the charter segment of the bus industry noted declines in both inbound and domestic charter bus traffic, particularly in the Ontario market. The SARS (severe acute respiratory syndrome) outbreak appears to be the most significant factor in this development. The Canadian bus industry has strongly supported campaigns to re-build confidence in Canada and Ontario as a tourism destination.

The pace of consolidation within the bus industry slowed in 2003. At the end of the year, Groupe Orléans Express agreed to purchase the Irving-owned bus operations in the Maritime Provinces (Acadian Lines, SMT Eastern and Nova Charter Service), pending regulatory approval.

Laidlaw, the largest operator of scheduled, charter and school bus services in Canada, emerged from U.S. bankruptcy protection in June 2003. Its base was moved from Canada to the United States.

INFRASTRUCTURE

ROAD NETWORK

The Canadian road network includes more than 1.4 million two-lane equivalent kilometres. The network consists of 110,000 kilometres of freeways and primary highways, 115,000 kilometres of secondary highways and other arterial roads, and more than 1.2 million kilometres of local streets and rural connector roads. (For a breakdown of Canada's road network by province, see Transport Canada's Annual Report homepage at www.tc.gc.ca. See Table A7-1 in the Addendum.)

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

The trucking industry is made up of for-hire carriers, private carriers, owner-operators and courier firms. In 2002, it generated an estimated \$51.1 billion in revenues.

A number of factors can be used to differentiate trucking firms: the size of their fleet of trucks; the type of equipment they use; the geographic coverage of their operations; the type of services they offer; and the type of freight they carry. Trucking operations can also be differentiated along jurisdictional lines. Carriers that provide interprovincial or international (extraprovincial) trucking services fall entirely within federal jurisdiction; carriers that operate entirely within a province fall under provincial jurisdiction.

For-hire motor carriers are in business expressly to haul freight for other people for compensation. They offer either truckload (TL) or less-than-truckload (LTL) services, or a combination of both. For-hire trucking services can be further categorized according to the types of freight carried, such as general freight services, household goods services, liquid and dry bulk services, forest products services and specialized freight services (see Table 7-1). In 2002, there were approximately 9,710 for-hire motor carriers in Canada, compared with 9,700 in 2001.

The top ten for-hire trucking companies,¹ based on total number of vehicles (tractors/trailers) in Canada, are: TransForce Income Fund, Montreal (8,100 vehicles); Trimac Transportation Services, Calgary (7,202 vehicles); Vitran Corporation, Toronto (6,126 vehicles); TransX, Winnipeg (4,377 vehicles); SLH Transport, Kingston, Ontario (4,310 vehicles); Challenger Motor Freight, Cambridge, Ontario (4,248 vehicles); Robert Transport / Groupe Robert, Boucherville, Quebec (4,109 vehicles); Mullen Transportation Inc., Aldersyde, Alberta (4,072 vehicles); Paul's Hauling Group, Winnipeg (3,795 vehicles); and Day & Ross Transportation Group, Hartland, New Brunswick (3,357 vehicles).

There were fewer acquisitions, strategic alliances and mergers of motor carriers reported in 2003 than in previous years. The most notable had to do with Clarke Inc., one of Canada's largest for-hire carriers and logistics providers, which sold its Concord Transportation subsidiary to ATS Andlauer Transportation Services Inc. of Toronto. In return, Clarke was to get 30 per cent ownership in ATS. Concord offers expedited LTL, TL and specialized logistics services across North America, with extensive U.S. coverage. TransForce Income Fund (Montreal), Canada's largest for-hire trucking operation, purchased Calgary-based Canadian Freightways as part of the liquidation of its bankrupt U.S.-based parent, Consolidated Freightways. Canadian Freightways' operations in Canada and the United States include LTL, TL, sufferance warehouses, customs brokerage, international freight forwarding, fleet management and logistics management.

Owner-operators are small independent for-hire operators who own and drive their own truck and who haul trailers for other carriers or even directly for a shipper. The use of owner operators allows trucking companies to expand or contract capacity as market conditions change. There were approximately 36,035 owner-operators in Canada in 2002, compared with 36,000 in 2000.

Couriers and parcel-delivery firms are included as part of trucking activity because they operate trucks and because they provide services that compete with those provided by for-hire carriers. However, the number of trucks used in the courier industry is relatively small — approximately 2,000 — as most companies use small cube vans, automobiles and even bicycles for deliveries.² Operations include overnight or later delivery and same-day messenger delivery. In 2002, the courier industry generated an estimated \$5.4 billion on average volumes of 2.1 million packages per day. There are approximately 17,200 small courier companies that generate revenues less than \$1 million annually. Although these small companies account for 97 per cent of the total number of courier companies, they account for only 14 per cent of total courier revenues. Many of these companies now do what the first trucking companies did — either distribute small shipments from a few large shippers to many consignees spread out over a delivery territory or collect small shipments and deliver them to one consignee.

¹ Source: *Today's Trucking*, March 2003.

² The 2,000 trucks refers to large trucks as defined by the National Safety Code vehicles with a gross vehicle weight exceeding 4,500 kg. Only very large courier companies use trucks of this size, which includes straight trucks and tractors. Most of the 17,200 courier companies are small local companies that use smaller step, cube and cargo vans, or cars/station wagons. These vehicles are not "trucks" by definition or for the purposes of comparison with the other sectors. In the year 2000, it was estimated there were a total of 24,700 vehicles involved in the pickup and delivery of courier shipments in Canada.

Private trucking is the term used to designate that part of the industry not accounted for by the for-hire segment of the trucking industry. It includes companies that primarily haul their own freight but that may, from time to time, haul other people's goods for compensation. Because these trucks are operated by someone working for an industry other than for-hire trucking, the value of the service provided is captured under some other, non-trucking sector within the National Accounts System (e.g. farming or manufacturing). Most companies that own trucks to haul their own products do not ordinarily record revenues for this operation. So the estimate of \$23 billion in revenues for private trucking is derived from the estimated operating costs of trucks for these companies. Private trucking activities take place mainly in urban and local areas but are significantly less prevalent in longer-haul markets.

The use of trucks to haul freight not for commercial purposes includes, for example, a construction company using trucks and trailers to transport heavy machinery from job site to job site. Governments operate truck fleets and various other vehicles on roads for specific and unique needs such as tree trimming, snow-plowing and repairing infrastructure.

The number of bankruptcies in the trucking industry generally follows the pattern observed for the economy as a whole. In 2003, the number of trucking bankruptcies decreased for the second year in a row, a nine per cent drop from 2002. Bankruptcies dropped in every region in Canada with the exception of British Columbia and the Territories. See Table A7-2 in the Addendum for more on bankruptcies in the trucking industry.

Table 7-1 compares the revenues of large for-hire trucking firms by the type of freight carried. General freight carriers continue to dominate the for-hire sector, accounting for 62 per cent of for-hire revenues in 2002. The specialized freight category is next in importance with 16 per cent.

TABLE 7-1: FOR-HIRE CARRIER REVENUES BY MARKET SEGMENT, 2000 – 2002

	<i>Revenues (Millions of dollars)</i>			<i>Per cent of Total</i>		
	2000	2001	2002	2000	2001	2002
General freight	12,092.3	12,761.8	12,803.7	62.1	60.8	62.1
Other specialized freight	3,002.8	3,456.3	3,329.4	15.4	16.5	16.1
Liquid bulk	1,640.2	1,654.5	1,776.5	8.4	7.9	8.6
Dry bulk	1,138.8	1,470.8	1,159.8	5.8	7.0	5.6
Forest products	889.4	1,030.2	948.6	4.6	4.9	4.6
Movers	532.5	705.6	629.1	3.1	3.6	3.0
Total	19,469.0	21,002.8	20,617.8	100.0	100.0	100.0

Note: "Other specialized freight" includes motor vehicles, heavy machinery, agricultural, live animals and other commodities carriers.

Source: Transport Canada, based on Statistics Canada, *Quarterly Motor Carriers of Freight Survey (QMCF)* 2000 – 2002

Table 7-2 shows total for-hire trucking revenues by size of carrier from 2000 to 2002, as measured by four categories of annual revenues: \$25 million or more; \$12 million to \$25 million; \$1 million to \$12 million; and less than \$1 million. Although total revenues have more than doubled since 1991, the proportion of revenues in each of the four categories has remained relatively stable.

Class 8 trucks have seen yearly fluctuations in reported sales, which has been driven by a number of factors, including the profitability of carriers, the demand for trucking services and carriers' fleet replacement policies. The demand for many trucking services tends to increase or decrease with market conditions (the economy as a whole or certain segments of the economy), and the swings in these market conditions tend to be exacerbated in the final demand for trucking services. Following the economic slowdown in both Canada and the United States in 2001, truck sales increased by 10.5 per cent in 2002 and a further 10.8 per cent in 2003, after declining in 2000 and in 2001.

TABLE 7-2: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIERS, 2000 – 2002

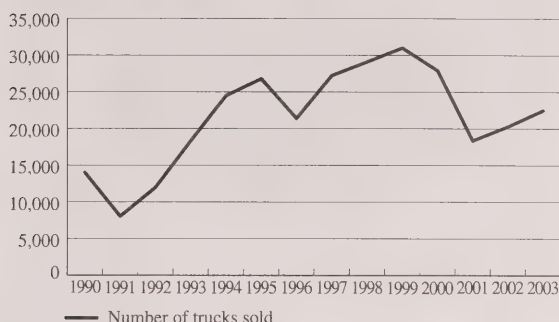
Year	<i>Small Carriers (Less than \$1 million)</i>		<i>Medium Carriers (\$1 – 12 million)</i>		<i>Large Carriers (\$12 – 25 million)</i>		<i>Top Carriers (Over \$25 million)</i>		<i>Grand Total Revenues</i>
	<i>Revenues (Millions of dollars)</i>	<i>Share (per cent of total)</i>	<i>Revenues (Millions of dollars)</i>	<i>Share (per cent of total)</i>	<i>Revenues (Millions of dollars)</i>	<i>Share (per cent of total)</i>	<i>Revenues (Millions of dollars)</i>	<i>Share (per cent of total)</i>	
2000	2,633.6	11.9	8,246.4	37.3	4,660.5	21.1	6,562.2	29.7	22,102.7
2001	2,750.0	11.6	9,834.3	41.4	4,506.4	19.0	6,662.1	28.0	23,752.8
2002	2,800.0	12.0	8,667.3	37.0	5,091.3	21.7	6,859.2	29.3	23,417.8

Note: Including motor for-hire carriers of freight earning annual revenues of \$30,000 or more.
2001 and 2002 small for-hire carriers data estimated.

Source: Transport Canada, based on Statistics Canada, *Quarterly Motor Carriers of Freight Survey (QMCF)* 2000-2002;
Statistics Canada, *Annual Motor Carriers of Freight Survey of Small For-Hire Carriers and Owner Operators*

Figure 7-1 charts the trends in sales of Class 8 trucks in Canada from 1990 to 2003.

FIGURE 7-1: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2003



Source: Canadian Vehicle Manufacturers' Association

BUS INDUSTRY

The Canadian bus industry can be divided into four main sectors³: intercity, charter/tour, school and transit. Traditionally, the main characteristic distinguishing intercity and charter operators from the other bus sectors has been the use of motor coaches (as opposed to school or transit buses). The school, intercity and charter/tour sectors are closely interrelated, and corporate ownership cuts across sectoral lines. Carriers in all sectors and of all sizes often offer a mix of services.

Scheduled Intercity Bus Carriers – These carriers primarily operate scheduled services between two or more urban areas. Such services link all Canadian provinces and territories except Nunavut. Laidlaw is the largest scheduled intercity operator in Canada, through its ownership of Greyhound, Grey Goose, Voyageur Colonial, Penetang-Midland Coach Lines and a few other smaller companies. Other major operators include Coach Canada, Orleans Express, SMT/Acadian Lines and Saskatchewan Transportation. Smaller regional operators include Ontario Northland, Les Autobus Maheux, Intercar and DRL. Almost all scheduled intercity operators provide at least some charter service.

Charter/Tour Carriers – Charter service is characterized by the rental of a bus to a person or group where all passengers embark and disembark at the same point. Tour carriers primarily provide scenic and sightseeing services over fixed routes and sell individual seats. Shuttle carriers are mainly involved in providing service to airports and rail terminals. Some of the larger charter/tour carriers include Brewster Transportation & Tours, Charter Bus Lines of British Columbia, International Stage Lines Inc., Pacific Western Transportation Ltd. and Coach Canada. A single carrier frequently offers both charter and shuttle services, and it is not uncommon for carriers in this group to also provide school bus service.

School Service – As the name implies, school bus carriers provide bus service to transport students to and from school. Most school bus operators also provide some charter service. Laidlaw is the largest school bus carrier in Canada.

Urban Transit Service – All major cities in Canada have some form of public transit service. Close to 20 million people are provided with regular transit service covering 2,600 fixed routes across Canada using a mix of buses, trolley coaches, light rail vehicles and commuter rail vehicles. Municipal, federal and provincial governments provide operating and capital contributions for urban transit services. Some urban transit operators offer school bus and charter services as well as services to travellers with disabilities.

BUS TRANSPORTATION

The Canadian bus industry is made up of approximately 1,700 operators that collectively move more than 1.5 billion passengers each year. In 2002, the bus industry generated more than \$7.1 billion in total revenues, including government operating and capital contributions. This industry can be examined by segment (i.e. main company activity as classified under NAICS) or by service line (or service activity) provided.

Bus Segments (NAICS) – In 2002, urban transit was by far the largest sector, capturing almost 66 per cent of total industry revenues (including government contributions) or 48 per cent of total revenues (excluding government contributions). Operating and capital contributions from governments accounted for more than 52 per cent of urban transit operators' total revenues. Urban transit operators are typically dedicated to transit operations, with only a fraction of their revenues coming from other service lines.

3 Canada has used the North American Industrial Classification System (NAICS) since 1997. NAICS groups the bus industry under six headings: urban transit systems; interurban and rural bus transportation (scheduled intercity); school and employee bus transportation; charter bus industry; other ground passenger transportation (shuttle); and scenic/sightseeing transportation.

The school bus sector ranked second in revenues with over 20 per cent of total industry revenues, followed by intercity operators and charter/tour operators. Almost all these operators, regardless of their primary business, provided other service lines, demonstrating the varied nature of the industry.

Service Lines – Over the past number of years, industry diversification, mergers and acquisitions, as well as consolidated reporting, have clouded the industry sectors, rendering the segment approach less reliable⁴ in evaluating the industry. The service line approach gives a better indication of activity in the industry. Overall, the industry grew from \$5.2 billion in 1995 to \$7.1 billion in 2002, an average annual growth of over four per cent. This growth, however, was unevenly distributed among service lines, averaging between 3.5 per cent for parcel express delivery and seven per cent for charters, shuttle and sightseeing services, the best performance of any of the service lines during this period.

Service line revenues were somewhat higher in 2001 due to a new bus survey that captured a larger number of companies.⁵ In terms of passengers carried, urban transit services (including urban transit operators and other operators offering transit services) carried 1,571 million passengers in 2002. As for intercity passengers, the 2002 total is not yet available (almost 15.2 million passengers were registered under intercity services in 2001). Table 7-3 shows bus revenues by service line from 1995 to 2002.

URBAN TRANSIT

In 2002, urban transit operators reported revenues totalling \$4.6 billion, up 4.8 per cent from 2001. Government contributions remained the main source of revenues, comprising 52 per cent of total urban transit revenues, followed by urban transit services with 45 per cent. From 1995 to 2002, urban transit systems' operating revenues grew at an average annual rate of 5.2 per cent, while government contributions rose at an average rate of 2.5 per cent over the same period. As a result, the government contribution's share of total urban transit revenues decreased from 57 per cent to 52 per cent over the period. Figure 7-2 shows revenue sources for urban transit operators in 2002.

TABLE 7-3: BUS INDUSTRY REVENUES BY SERVICE LINE, 1995 – 2002

(Millions of dollars)								
	1995	1996	1997	1998	1999	2000	2001 ¹	2002 ²
Number of companies	878	898	877	1,110	1,062	968	1,813	1,704
Service Line								
Urban transit services	1,484	1,574	1,672	1,694	1,817	1,956	2,092	2,234
School bus transportation	864	832	826	894	915	964	1,112	1,220
Charters, shuttle and sightseeing services	318	334	316	369	352	449	469	506
Scheduled intercity services	246	248	241	240	236	271	332	329
Other passenger/operating revenues	216	196	191	216	219	225	246	283
Parcel express delivery	79	85	79	87	88	96	98	100
Total (excluding government contributions)	3,207	3,269	3,326	3,499	3,627	3,961	4,349	4,672
Government contributions ³	2,036	2,056	2,137	2,386	2,562	2,271	2,355	2,424
Total	5,243	5,326	5,463	5,885	6,189	6,231	6,703	7,096

Notes: 1 From 1995 to 2000: including bus operators with annual revenues greater than \$200,000.

2 From 2001 to 2002: new passenger bus and urban transit survey by Statistics Canada, including all bus companies; preliminary data for 2002.

3 Including operating and capital government contributions; government contributions for urban transit.

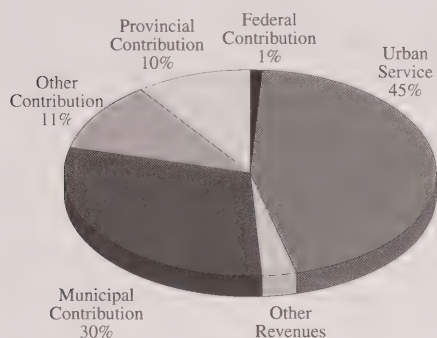
Source: *Transport Canada, adapted from Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-215, and Statistics Canada, new Passenger bus and urban transit survey for 2001 and 2002; special tabulation based on NAICS and Canadian Urban Transit Association (CUTA)*

In terms of passengers using urban transit, ridership levels decreased in the early 1990s to a low of 1,353 million passengers in 1996. Since then, with the exception of a small decrease in 2001, the number of passengers has increased steadily to peak at 1,537 million passengers in 2002, the highest level in the last two decades. A similar pattern existed for distance travelled by urban transit vehicles. Vehicle-kilometres jumped from 716.4 million to 857.1 million from 1996 to 2002, an average annual increase of three per cent. Figure 7-3 illustrates long-term trends in the urban transit sector from 1981 to 2002.

4 For example, from 1995 to 2000, the segment approach did not adequately measure the bus industry, as some scheduled intercity carriers were recorded under school bus operators due to consolidated financial reporting coming from mergers and acquisitions. This was one of many factors that triggered the redesign by Statistics Canada of a new passenger bus survey (implemented in 2001) to collect both industry and activity data.

5 From 1994 to 2000, the passenger bus and urban transit survey covered companies having annual gross revenues of \$200,000 or more. Starting in 2001, however, the new passenger bus survey has covered all companies that have at least one bus establishment engaged in the provision of bus and urban transit services.

FIGURE 7-2: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2002

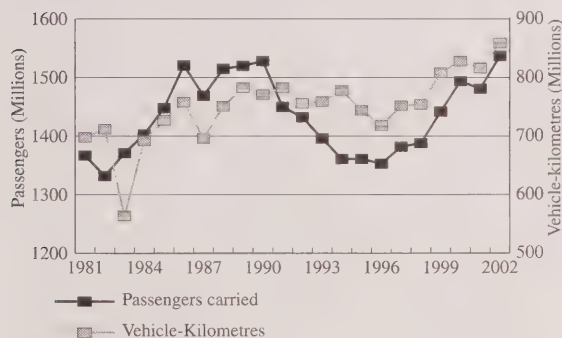


Note: "Other" includes charter, school bus and other passenger services.

Source: Transport Canada tabulation, adapted from Canadian Urban Transit Association (CUTA) data

Since 1996, the urban transit fleet rose more than 12 per cent to a record high of 14,665 vehicles in 2002. The main change in the fleet composition over this period was the replacement of standard buses by more accessible, low-floor buses, which increased from 499 to 3,538.

FIGURE 7-3: LONG-TERM TREND IN URBAN TRANSIT, 1981 – 2002



Source: Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-215; special tabulation based on Canadian Urban Transit Association (CUTA) data

PASSENGER TRANSPORTATION

LIGHT VEHICLE FLEET AND USE

According to the 2002 Canadian Vehicle Survey, 17.3 million light vehicles were registered in the ten provinces and three territories (data refer to in-scope vehicles with a gross weight less than 4,500 kilograms). As Table 7-4 shows, 10.4 million of these vehicles were classified as passenger cars and station wagons, 2.5 million were listed as vans, 1.3 million were classified as sport-utility vehicles (SUVs), and 3.0 million were defined as pickup trucks. As a group, light trucks and vans (including SUVs and pickup trucks) represented 39.0 per cent of the light vehicle fleet. Vans and light trucks were driven about 15 per cent more on average than passenger cars in 2002, amassing 18,100 kilometres per year versus about 15,800 kilometres for cars and station wagons. Total vehicle-kilometres driven amounted to 165 billion for cars and station wagons (57 per cent of total) and 122 billion for vans and light trucks (42 per cent). Vans and light trucks also had slightly higher vehicle occupancies than passenger cars, accounting for about 43 per cent of light-vehicle passenger-kilometres. This works out to an average occupancy of 1.65 persons per light truck or van versus 1.61 per car or station wagon.

TABLE 7-4: DISTRIBUTION OF VEHICLE ACTIVITY BY VEHICLE BODY, 2002

	Car / station wagon	Light trucks/vans				Other	Total
		Van	Sport-utility	Pickup truck	Subtotal		
Vehicles (millions)	10.4	2.5	1.3	3.0	6.7	0.1	17.3
Per cent share	60.3	14.2	7.4	17.3	39.0	0.7	100.0
Vehicle-km (billions)	164.6	43.8	23.5	54.5	121.9	3.2	289.7
Per cent share	56.8	15.1	8.1	18.8	42.1	1.1	100.0
Passenger-km (billions)	264.5	81.1	40.3	80.2	201.7	4.4	470.6
Per cent share	56.2	17.2	8.6	17.0	42.9	0.9	100.0
Litres of fuel (billions)	16.4	5.7	3.3	8.1	17.1	0.6	34.0
Per cent share	48.2	16.7	9.7	23.8	50.2	1.7	100.0
Average distance driven (thousands of kilometres)	15.8	17.8	18.3	18.2	18.1	27.6	16.8
Persons per vehicle	1.61	1.85	1.71	1.47	1.65	1.39	1.62
Fuel efficiency (L/100km)	10.0	12.9	14.1	14.8	14.0	17.9	11.7

Note: Figures exclude the Territories. Some totals may not add up due to rounding

Source: Canadian Vehicle Survey 2002 and Transport Canada calculations

There was a wide gap in fuel efficiency between cars and the heavier trucks and vans. For cars and station wagons, the calculated fuel efficiency averaged about 10 litres per 100 kilometres. This was about 30 per cent lower (i.e. used less fuel) than the corresponding consumption rate of 14 litres per 100 kilometres for vans and light trucks.

As Table 7-5 shows, the distribution of light vehicles, vehicle-kilometres and passenger-kilometres by province/territory in 2002 broadly followed the distribution of population, with few exceptions. In terms of motorization (number of vehicles per capita), most jurisdictions were close to the national average of about 550 vehicles per 1,000 people. Alberta and Saskatchewan were exceptions, as their rates were more than 10 per cent higher, as was Newfoundland and

Labrador, whose rate was 15 per cent lower. Annual average vehicle use was nearly 17,000 kilometres nationally, ranging from fewer than 14,000 kilometres per year in the Northwest Territories and Nunavut and about 14,500 in Newfoundland/Labrador and Manitoba to a high of 19,000 in Nova Scotia and New Brunswick. Average vehicle occupancies in the provinces/territories stayed close to the national average of 1.6 persons per vehicle. Average light-vehicle fuel efficiency showed little variation across jurisdictions. With the exception of Alberta, which had an average fuel efficiency more than 15 per cent higher than the national average, each jurisdiction had a fuel efficiency ratio about five per cent above or below the national average.

TABLE 7-5: FUEL EFFICIENCY OF LIGHT VEHICLES, 2002

	Vehicles (Thousands)	Vehicle- kilometres (Billions)	Passenger- kilometres (Billions)	Litres of fuel purchased (Billions)	Averages			
					Vehicles per 1,000 population	Average distance driven (Thousands)	Passengers per vehicle	Average fuel efficiency (L/100km)
Newfoundland and Labrador	246	3.6	6.6	0.4	475	14.5	1.8	12.4
Prince Edward Island	72	1.3	2.3	0.1	526	17.9	1.7	11.2
Nova Scotia	514	9.7	16.3	1.0	550	19.0	1.7	10.4
New Brunswick	437	8.3	14.4	1.0	583	18.9	1.7	12.2
Quebec	4,000	65.7	101.8	8.0	537	16.4	1.5	12.2
Ontario	6,458	113.4	180.0	12.3	534	17.6	1.6	10.8
Manitoba	598	8.7	15.2	1.1	518	14.5	1.7	12.3
Saskatchewan	624	9.9	18.4	1.1	627	15.9	1.9	11.5
Alberta	2,045	32.6	55.7	4.5	657	16.0	1.7	13.7
British Columbia	2,259	36.4	59.9	4.5	549	16.1	1.6	12.2
Yukon	23	0.4	N/A	N/A	761	15.8	N/A	N/A
Northwest Territories	19	0.3	N/A	N/A	464	13.8	N/A	N/A
Nunavut	3	0.04	N/A	N/A	99	12.3	N/A	N/A
Canada	17,299	290.3	470.6	34.0	552	16.8	1.6	11.7
Percentage distribution								
Newfoundland and Labrador	1.4	1.2	1.4	1.3	86.0	86.3	114.1	106.2
Prince Edward Island	0.4	0.4	0.5	0.4	95.3	106.4	108.0	95.4
Nova Scotia	3.0	3.4	3.5	3.0	99.7	113.0	103.5	88.5
New Brunswick	2.5	2.8	3.1	3.0	105.7	112.5	107.4	104.1
Quebec	23.1	22.6	21.6	23.6	97.4	97.9	95.5	104.1
Ontario	37.3	39.1	38.3	36.1	96.8	104.7	97.9	92.3
Manitoba	3.5	3.0	3.2	3.1	93.8	86.6	107.8	104.7
Saskatchewan	3.6	3.4	3.9	3.4	113.7	94.8	114.6	98.2
Alberta	11.8	11.2	11.8	13.1	119.0	95.1	105.4	116.7
British Columbia	13.1	12.5	12.7	13.1	99.5	96.1	101.4	104.5
Yukon	0.1	0.1	N/A	N/A	137.9	93.9	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	84.1	82.1	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	18.0	73.3	N/A	N/A
Canada	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage of national average								
Newfoundland and Labrador	1.4	1.2	1.4	1.3	86.0	86.3	114.1	106.2
Prince Edward Island	0.4	0.4	0.5	0.4	95.3	106.4	108.0	95.4
Nova Scotia	3.0	3.4	3.5	3.0	99.7	113.0	103.5	88.5
New Brunswick	2.5	2.8	3.1	3.0	105.7	112.5	107.4	104.1
Quebec	23.1	22.6	21.6	23.6	97.4	97.9	95.5	104.1
Ontario	37.3	39.1	38.3	36.1	96.8	104.7	97.9	92.3
Manitoba	3.5	3.0	3.2	3.1	93.8	86.6	107.8	104.7
Saskatchewan	3.6	3.4	3.9	3.4	113.7	94.8	114.6	98.2
Alberta	11.8	11.2	11.8	13.1	119.0	95.1	105.4	116.7
British Columbia	13.1	12.5	12.7	13.1	99.5	96.1	101.4	104.5
Yukon	0.1	0.1	N/A	N/A	137.9	93.9	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	84.1	82.1	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	18.0	73.3	N/A	N/A
Canada	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Some totals may not add up due to rounding.

Due to high sampling variability in the passenger-kilometre and fuel purchase estimates at the provincial/territorial level, figures for average passengers per vehicle should be used with caution.

Source: Canadian Vehicle Survey 2002 and Transport Canada calculations

TABLE 7-6: CANADA'S HEAVY TRUCK FLEET, 2002

	Vehicles (Thousands)		Vehicle-kilometres (Millions)		Percentage distribution			
	Medium	Heavy	Medium	Heavy	Vehicles Medium	Heavy	Vehicle-kilometres Medium	Heavy
Newfoundland and Labrador	3.5	2.8	58	158	1.1	1.1	1.1	0.9
Prince Edward Island	1.6	2.5	9	32	0.5	0.9	0.2	0.2
Nova Scotia	7.3	6.9	139	446	2.3	2.6	2.6	2.5
New Brunswick	5.6	3.3	113	97	1.8	1.2	2.1	0.5
Quebec	50.5	35.1	1,168	3,942	16.0	13.1	21.5	21.7
Ontario	68.7	102.2	1,624	7,925	21.8	38.1	29.8	43.6
Manitoba	9.2	12.6	166	1,128	2.9	4.7	3.0	6.2
Saskatchewan	37.0	22.2	161	1,005	11.7	8.3	3.0	5.5
Alberta	77.9	64.8	1,131	2,905	24.7	24.1	20.8	16.0
British Columbia	52.3	13.5	854	349	16.6	5.0	15.7	1.9
Yukon	0.9	1.1	12	94	0.3	0.4	0.2	0.5
Northwest Territories	0.5	1.1	6	81	0.2	0.4	0.1	0.4
Nunavut	0.2	0.2	1	5	0.06	0.07	0.01	0.03
Canada	315.4	268.4	5,440	18,167	100.0	100.0	100.0	100.0

Note: Some totals may not add up due to rounding.

Source: Canadian Vehicle Survey 2002 and Transport Canada calculations

FREIGHT TRANSPORTATION

HEAVY TRUCK FLEET

The Canadian Vehicle Survey also provides information on the heavy truck fleet and its use characteristics (see Table 7-6). In 2002, more than 580,000 trucks were registered with a gross vehicle weight of at least 4,500 kilograms. This fleet was split between 315,000 medium trucks, weighing between 4,500 kilograms and 15,000 kilograms, and 268,000 heavy or Class 8 trucks, weighing more than 15,000 kilograms. Three quarters of the Class 8 heavy truck fleet were concentrated in only three provinces (Ontario with 38 per cent, Alberta with 24 per cent and Quebec with 13 per cent), while about 90 per cent of the medium truck fleet was concentrated in five provinces (Ontario, Alberta, British Columbia, Quebec and Saskatchewan). The distribution of vehicle-kilometres tilted heavily in favour of heavy trucks, at more than 18 billion in 2002 versus fewer than 5.5 billion for medium trucks. The distribution of heavy truck vehicle-kilometres was even more concentrated, as Ontario, Alberta and Quebec combined to account for more than 80 per cent of the kilometres driven.

Given similar numbers of trucks and a huge difference in vehicle-kilometres, it was no surprise that average distance driven per truck in 2002 was much greater for heavy trucks than for medium trucks. On average, heavy trucks were driven nearly 68,000 kilometres per year, almost four times more than the 17,000 kilometres that medium trucks were driven. By province, the variation in average distance driven by heavy trucks was also substantial, ranging from a low of 12,000 kilometres per vehicle in Prince Edward Island to more than 100,000 per vehicle in Quebec. Medium truck use across jurisdiction also showed a wide variation, from a low of only 4,000 kilometres in Saskatchewan to more than 23,000 in Quebec and Ontario.

HEAVY TRUCK VEHICLE CONFIGURATION

Table 7-7 provides a different perspective on the medium/heavy truck fleet based on truck configuration. The majority of trucks were classified as straight trucks (i.e. the power unit and the cargo area are combined in a single chassis), with 300,000 registered in the ten provinces. About 170,000 trucks were classified as tractor-trailers (i.e. the power unit pulls the cargo area in a separate trailer). The balance, about 110,000 vehicles, were classified as buses and other vehicles. While

TABLE 7-7: HEAVY TRUCK STATISTICS, BY CONFIGURATION, 2002

	Vehicles		Vehicle-km		Fuel (litres)		Average distance driven	Fuel efficiency
	(Thousands)	Share	(Billions)	Share	(Billions)	Share	(Thousands of kilometres)	(Litres/100km)
Straight truck	300	51.7	5.8	25.0	2.0	22.7	19.5	33.7
Tractor trailer	170	29.4	15.5	66.3	6.2	71.8	91.2	40.2
Bus/other	110	18.9	2.0	8.7	0.5	5.5	18.5	23.7
Heavy trucks	580	100.0	23.4	100.0	8.7	100.0	40.4	37.1

Note: Figures exclude the Territories. Some totals may not add up due to rounding.

Data refer to all trucks with a gross vehicle weight of at least 4,500 kg.

Source: Canadian Vehicle Survey 2002 and Transport Canada calculations

tractor-trailer combinations accounted for just 30 per cent of the fleet, they accounted for two thirds of the truck vehicle-kilometres, or 15.5 billion. Once again, this pattern was owing to the massive difference in average distance driven per vehicle. Straight trucks were driven fewer than 20,000 kilometres per year, while tractor-trailers were driven more than 90,000 kilometres per year.

Table 7-8 provides further detail on heavy truck vehicle configurations. Medium trucks were characterized by the straight truck configuration, with about 80 per cent of the kilometres driven using this format. Heavy trucks were dominated by various tractor-trailer combinations, with the most popular being a tractor and one trailer (the conventional 18 wheeler), which accounted for nearly 70 per cent of the heavy truck vehicle-kilometres. Straight trucks performed just under 18 per cent of the heavy truck vehicle-kilometres.

TABLE 7-8: VEHICLE-KILOMETRES DRIVEN BY TYPE OF VEHICLE CONFIGURATION, 2002

	<i>Medium (Per cent)</i>	<i>Heavy (Per cent)</i>
Straight truck	79.9	17.6
Tractor only	1.2	3.6
Tractor and 1 trailer	2.3	68.9
Tractor and 2 trailers	-	8.2
Tractor and 3 trailers	-	0.6
Other	16.6	1.2
Total	100	100

Note: Figures exclude the Territories. Some totals may not add up due to rounding.
Data refer to all trucks with a gross vehicle weight of at least 4,500 kg.

Source: Canadian Vehicle Survey 2002 and Transport Canada calculations

Medium trucks were put to various uses, with 57 per cent of the vehicle-kilometres taken up with carrying goods or equipment, a traditional freight-hauling role, while 35 per cent was devoted to non-freight carrying functions such as making service calls. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private trucking business. Of the 5.4 billion vehicle-kilometres driven by medium trucks, about eight per cent were done empty.

Heavy truck activity was dominated by the conventional goods-hauling role, as nearly 80 per cent of the vehicle-kilometres was devoted to carrying goods or equipment. About five per cent was for other work purposes, while about 16 per cent of vehicle-kilometres was made empty.

Table 7-9 shows the typical uses of Canada's medium and heavy trucks in 2002.

TABLE 7-9: TYPICAL USE OF CANADA'S MEDIUM AND HEAVY TRUCKS, 2002

	<i>Medium trucks</i>		<i>Heavy trucks</i>	
	<i>Vehicle-km (Billions)</i>	<i>Share (Per cent)</i>	<i>Vehicle-km (Billions)</i>	<i>Share (Per cent)</i>
Carrying goods/ equipment	3.1	57	14.2	79
Empty	0.4	8	2.9	16
Other work purpose	1.9	35	0.9	5
Total	5.4	100	18.0	100

Note: Figures exclude the Territories. Some totals may not add up due to rounding.
Data refer to all trucks with a gross vehicle weight of at least 4,500 kg.

Source: Canadian Vehicle Survey 2002 and Transport Canada calculations

TRUCK TRAFFIC BY SECTOR

After a slowdown due to the 1990/91 recession, for-hire truck⁶ traffic jumped from 72.9 to 177.2 billion tonne-kilometres over the 1992 – 2002 period. The transborder sector dominated, with an annual average growth rate of 13.6 per cent. This was more than twice the rate in domestic trucking activities, which was 6.2 per cent. Domestic trucking activities include intraprovincial and interprovincial activities, which grew at rates of five and nearly seven per cent a year, respectively.

In terms of value, about 66 per cent of Canada–U.S. trade moved by truck in 2002. Commodities shipped by truck from/to the United States totalled \$372 billion, with exports accounting for \$197 billion of this. Preliminary 2003 trade data (11 months) show a decrease of 10 per cent in the value of cargo carried by truck from/to the United States. A contributing factor to the decreasing growth in transborder traffic in 2003 was a sluggish U.S. economy for most of 2003 combined with an appreciation of the Canadian dollar, which has made Canadian goods relatively more expensive to American consumers.

6 Including Canadian domiciled long-distance for-hire trucking firms with annual operating revenues of \$1 million or more.

Figure 7-4 illustrates the growth of Canadian for-hire trucking traffic between 1988 and 2002. Table A7-8 in the Addendum provides the data in a tabular form.

FIGURE 7-4: TOTAL FOR-HIRE TRUCKING TRAFFIC IN ANNUAL TONNE-KILOMETRES, 1988 – 2002



Note: For-hire trucking carriers with annual operating revenues of \$0.5 million or more (1988/89) and of \$1 million or more (1990 – 2002).

Source: Statistics Canada, *Trucking in Canada*, Cat. 53-222 and Special tabulations

COMMODITIES AND TRUCKING FLOWS

In 2002, domestic and transborder for-hire trucking traffic by Canadian firms generated revenues of \$8.3 billion and \$7.3 billion, respectively. About 81 per cent of transport revenues were attributable to six groups of commodities: manufactured products (25 per cent), food products (17 per cent), forest products (13 per cent), metal and steel products (10 per cent), automobile and transport products (eight per cent) and plastic/chemical products (eight per cent). In terms of volume, measured in tonne-kilometres, the same six commodities also dominated in the same proportion (i.e. 81 per cent of the total).

Ontario dominated in all market segments, with 36 per cent of intraprovincial trucking traffic, 33 per cent of interprovincial trucking traffic and 44 per cent of total transborder traffic hauled by trucks. At the interprovincial level, the largest movements were between Ontario and Quebec (12.4 billion tonne-kilometres), representing almost 24 per cent of total interprovincial trade by for-hire trucks in volume. At the transborder level, the heaviest traffic flows involved those between Ontario and the U.S. central region (18.4 billion tonne-kilometres) and between Ontario and the U.S. southern region (11.4 billion tonne-kilometres). For additional information on volume and trucking flows, see tables A7-9 to A7-11 in the Addendum.

CANADA–U.S. BORDER CROSSING ACTIVITY

Heavy truck activity across the Canada–U.S. border shrank two per cent in 2003, falling back to the 2001 level of 13 million two-way trips. This is the third straight year of steady or no growth in crossing activity since the peak of 13.6 million trips in 2000. The levelling off of activity reflects continuing weakness in the U.S. economy, which reduces the demand for freight transportation. At 60.1 million trips, car crossings were off another six per cent from 2002, the lowest level since 1986. For further details on border activity by border crossing, see the Transport Canada Annual Report homepage at www.tc.gc.ca. See Addendum tables A7-12 and A7-13.

PRICE, PRODUCTIVITY, FINANCIAL PERFORMANCE

TRUCKING INDUSTRY

In 2002, the revenues of trucking firms fell by one per cent, the first drop since 1991. However, from 1996 to 2002, industry revenues grew at an average annual rate of 6.8 per cent. From 1996 to 1999, trucking rates increased marginally. Since then they have grown by 2.8 per cent annually. Output rose at a robust annual rate of 4.7 per cent between 1996 and 2002. Both domestic and transborder traffic fell in 2002, the former by 5.8 per cent, the latter by 2.9 per cent. The drop in transborder activity in 2002 compares with double digit growth recorded in previous years.

Total factor productivity in the trucking industry fell by 1.8 per cent in 2002. This reduced annual productivity gains to less than one per cent over the 1996 – 2002 period. Unit costs rose by 3.1 per cent in 2002; the increase averaged 1.2 per cent a year between 1996 and 2002.

In 2002, the average industry operating ratio continued to improve, reaching 93.9 per cent. Every year since 1997, the industry has posted financial returns compatible with its long-term viability.

Large trucking carriers maintained their profitability in the first three quarters of 2003.

URBAN TRANSIT SYSTEMS

In 2002, carriers' revenues (excluding subsidies) for urban transit services rose by seven per cent. Part of this increase can be attributed to the recovery of British Columbia transit revenues after the 2001 strike. Excluding this province, transit revenues would still have grown by 3.1 per cent. Traffic increased in 2002 by 4.7 per cent overall and by 2.1 per cent without British Columbia. Transit prices rose by 2.9 per cent, or 1.9 per cent in real terms, a pace similar to long-term trends. Between 1996 and 2002, prices increased by 2.4 per cent a year while output grew by 2.8 per cent a year.

Transit systems are among the most labour- and capital-intensive of all transport industries, with respective shares of the two inputs at 48 and 29 per cent of total costs. The cost structure of the industry was stable until 2001. In 2002, the share of labour, fuel and capital in total costs was affected by the 20 per cent jump in the share of other materials and services.

In 2002, total factor productivity of transit systems fell by 3.7 per cent. Rises in fuel and capital efficiency were not sufficient to offset productivity declines in labour and other variable production factors, the latter being explained by the relative cost increase of other materials and services.

Transit costs per unit of output rose by 4.8 per cent. Over the last three years, unit costs have increased by 10 per cent, compared with a 0.7 per cent decrease between 1996 and 1999.

In 2002, the total cost of transit systems was estimated at \$4.9 billion. After decreasing steadily since 1996 to 46 per cent in 2001, cost recovery increased marginally in 2002. Annual operating subsidies rose to \$1.6 billion, \$103 million more than the average of the previous three years. Capital subsidies of \$766 million were in line with the last three-year averages.

Ontario continued to achieve the highest cost recovery but only because it charged the highest fares (per kilometre) in Canada. Alberta and British Columbia had the lowest cost recovery, the former due to the lowest fares of all regions, the latter to the highest unit costs in the country. In Quebec, the revenue shortfalls were smaller than the Canadian average, despite lower fares. Table 7-10 provides details on the performance of transit systems by region.

TABLE 7-10: SELECTED PROVINCIAL SYSTEMS INDICATORS, 2002

	<i>Quebec</i>	<i>Ontario</i>	<i>Alberta</i>	<i>B.C.</i>	<i>Canada</i>
Price levels (Canada = 100)	84.6	118.4	73.2	95.0	100.0
Total unit cost (Canada = 100)	88.1	110.0	93.4	105.6	100.0
Cost recovery (in %)	42.7	47.9	34.9	40.1	44.5
Revenue shortfall per passenger (\$)	1.38	1.89	2.11	2.46	1.78

Source: Transport Canada, based on Statistics Canada and CUTA information

The volume of marine traffic generated by Canada increased in 2002, resulting from increases in both domestic and transborder flows.

MAJOR EVENTS IN 2003

LEGISLATIVE AND REGULATORY CHANGES AND INITIATIVES

CANADA SHIPPING ACT, 2001 REGULATORY REFORM

The *Canada Shipping Act, 2001* (CSA 2001) received Royal Assent on November 1, 2001. The regulations to be in place for the Act to be implemented are being dealt with in two phases: the reform and streamlining of more than 100 existing regulations into 30, and the modernization of the remaining regulations consistent with the new Act. The proposed regulations will not apply to operators of non-motorized and/or inflatable-hulled vessels, which are used mainly in the adventure tourism industry. They will also not apply to the international carriage of passengers.

In the fall of 2003, consultations on regulatory reform were initiated. All Canadians were invited to participate in open meetings in six regional centres or on the Internet at www.cmac-ccmc.gc.ca under "Public Consultations on Regulatory Reform – Phase I Regulations." The consultations focused on eight topics: collision prevention; ballast water management; marine personnel; administrative monetary penalties; boating restriction; aids to navigation protection; prevention of pollution from vessels; and vessel clearance.

The regulatory reform project is proceeding in a two-phased approach. More than 50 existing regulations will be overhauled into 17 regulations in Phase I; and approximately 35 regulations will be overhauled into 11 in Phase II. Phase I focuses on the regulations that are needed to bring into force the *Canada Shipping Act, 2001*. Phase 2 will concentrate on the existing regulations that are consistent with the CSA 2001. Generally, these regulations need only to be updated and modernized and not overhauled as those in Phase I.

For more information on the regulatory reform and safety regime initiatives, including the new Marine Safety Strategic Plan 2003 – 2010, visit www.tc.gc.ca/marine/menu.htm.

MARINE LIABILITY ACT

Compulsory insurance for commercial passenger vessels

On August 8, 2001, the Government of Canada enacted the *Marine Liability Act* (MLA) under Chapter 6 of the Statutes of Canada. This Act consolidated various maritime liability regimes, including those for passengers, goods and pollution.

In early 2003, Transport Canada began consultations on the results of an independent report detailing recommendations for developing a compulsory insurance regime for vessels that carry passengers for commercial or public purposes, as per Section 39, Part 4 of the MLA. Based on the report's contents and resulting industry feedback, Transport Canada announced its position on the development of a compulsory insurance regime in August 2003 and is proceeding to develop regulations along these lines.

Amendment of Shipowner's liability limits for oil pollution spills

Part 6 of the *Marine Liability Act* establishes Canada's system of liability and compensation for oil pollution caused by spills from tankers. This system is based on two international conventions, the International Convention on Civil Liability for Bunker Oil Pollution Damage, 1992 (CLC) and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (IOPC). In 2000, amendments to these conventions agreed to by the International Maritime Organization (IMO) increased liability limits in both the CLC and IOPC from about \$270 million to \$400 million per incident. In accordance with these amendments, Canada brought the new limits into force on November 1, 2003, through legislative changes to the MLA. As a result, claimants affected by any pollution damage in Canadian waters will now benefit from this new compensation package.

Ship Source Pollution Prevention — Through co-operative efforts between Transport Canada, Environment Canada and the Department of Fisheries and Oceans, a variety of issues are being addressed. These include actions to: accelerate the phase-out of single-hulled tankers; eliminate sub-standard ships; introduce a “green ship” program for Canada; seek higher penalties from the courts for ship-source pollution; optimize surveillance and enforcement efforts; and investigate improvements to the provision of shore waste reception facilities. With the introduction of new regulations under the CSA 2001, the existing provisions for sewage and air pollution will be expanded, provisions for garbage will be updated, and new requirements will be introduced for anti-fouling systems and ballast water discharges.

SUPPLEMENTARY FUND PROTOCOL

In May 2003, the International Maritime Organization adopted a Protocol to the 1992 Fund Convention. The Protocol establishes a voluntary Supplementary Fund that provides a third layer of compensation for claimants of oil pollution damages in states that ratify the Protocol. Claimants in these states will now be entitled to receive greater compensation, a maximum of \$1.5 billion per incident, almost four times the current level of \$400 million. Future adoption of this Protocol by Canada will be subject to national consultations in 2004 to be followed by a Cabinet decision on ratification. Currently, Transport Canada is preparing a discussion paper to be used in these consultations.

CANADA MARINE ACT REVIEW

On June 4, 2003, the Minister of Transport released the *Canada Marine Act (CMA) Review Panel's* report. The report is part of the Government of Canada's review of the CMA launched in 2002, as prescribed by legislation.

The CMA streamlined marine legislation related to services provided by the federal government in the marine sector, allowed the establishment of Canada Port Authorities and the continued divestiture of certain harbour beds and port facilities, and facilitated the commercialization of the St. Lawrence Seaway. It also contained provisions for further commercializing federal ferry services and for pilotage authorities' operations.

Transport Canada is assessing the CMA Review Panel's recommendations and observations. In 2003, Transport Canada undertook several studies to evaluate market challenges, competitiveness and marine industry benefits both on the national and international fronts. These and other studies of significance to the marine industry will continue in 2004 in support of the CMA Review. Transport Canada will use the results of these studies — in conjunction with its assessment of the recommendations and observations and

with other major policy directions — to help develop amendments to the CMA and, where appropriate, choose alternative mechanisms in order to promote a more efficient and effective marine industry.

INFRASTRUCTURE

CANADA'S PORTS AND HARBOURS SYSTEM

Canada's ports and harbours play a crucial role in linking economic activities to markets that otherwise would not be accessible. As they are linked to both the rail and road networks, Canada's major ports are vital gateways in the national transportation system.

A plan to reorganize Canada's ports system was initiated in December 1995, following the announcement of the National Marine Policy. The federal government has since implemented a restructuring process to commercialize marine infrastructure. In order to facilitate this process, the National Marine Policy, which has been realized through the *Canada Marine Act*, specifies three categories of ports: (1) Canada Port Authorities (CPAs), (2) regional/local ports, and (3) remote ports.

The National Marine Policy acknowledges 19 major Canadian ports as Canada Port Authorities. These independently managed ports are essential links to Canada's domestic and international trade. The 19 CPAs are Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax. They include former Canada Ports Corporation's major divisional ports as well as former harbour commissions.

Regional/local ports make up the majority of Transport Canada-owned ports and are slated for transfer under the Port Divestiture Program. These ports range from those that sustain a high volume of regional and local traffic to smaller ports that support little or no commercial activity. In accordance with the Port Divestiture Program, the federal government's operational and ownership interests in regional/local ports are being terminated by transferring these ports to other federal departments, provincial governments or local interests, including municipal authorities, community organizations or private interests.

Transport Canada also continues to administer remote ports that serve as the primary transportation portals for isolated communities. These port facilities will remain under the control and administration of Transport Canada unless local stakeholders express a willingness to assume ownership of them.

PORT DIVESTITURE

The Port Divestiture that was originally scheduled to end on March 31, 2002, has been extended by Cabinet until March 31, 2006. Accordingly, Transport Canada will continue to transfer ownership and operations to regional/local ports. By giving local communities more control over port operations, the federal government is modernizing Canada's marine system by instilling commercial discipline and efficiency in the marine sector. This will ultimately contribute to the development of a more effective and efficient port system with local accountability. The greater autonomy afforded to ports will further allow a more effective application of business principles while promoting employment and economic growth. Once ports have been transferred, Transport Canada ends its operational role, which includes the direct enforcement of regulations, collection of user fees, and the monitoring of port operations.

Of the 549 public ports and port facilities originally under Transport Canada's control and administration before the National Marine Policy came into force, 450 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2003, 99 regional/local and remote ports and port facilities remained under Transport Canada control. Also, there are 19 sites where facilities have been transferred but cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2003.

As of December 31, 2003, 216 public ports and public port facilities had been transferred: 65 sites were transferred to other federal departments, 40 to provincial governments, 56 to municipal governments and 55 to private interests. In addition, 23 sites have either been demolished or have had Transport Canada's interest terminated (through lease or licence terminations).

Overall, 268 public ports have been deproclaimed, 30 of which were adjacent to port facilities already transferred. Archival research identified a further 26 harbours in addition to the original 549 port sites identified in the National Marine Policy.

While only four remote ports were divested in 2003, 30 remote ports have been divested since 1996. As a result, Transport Canada continues to administer just 30 remote ports nation-wide (10 in Quebec, two in Ontario, one in Manitoba and 17 in British Columbia).

FINANCIAL PERFORMANCE

Because audited financial statements of Canada Port Authorities for 2003 were not available for this report, results for 2002 were used. In addition, some 2001 figures have been restated to reflect changes in accounting policies as was reported in the 2002 audited financial statements. For detailed financial information, see Addendum tables A8-3 to A8-5.

In 2002, total operating revenues of CPAs were \$279 million, a five per cent increase over the \$266 million total of 2001. Vancouver and Montreal accounted for approximately 56 per cent of total revenues generated. Fifteen of the 19 CPAs reported an increase in revenues ranging from \$0.01 million to \$4.4 million, while seven reported decreases in expenditures ranging from \$0.06 million to \$1.5 million.

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2003

	<i>Federal</i>	<i>Provincial</i>	<i>Municipal</i>	<i>Private</i>	<i>Total</i>
Federal Agency Ports					
Canada Port Authorities	19	N/A	N/A	N/A	19
Harbour Commissions	1	N/A	N/A	N/A	1
Ports Operated by Transport Canada					
Regional/Local	69	N/A	N/A	N/A	69
Remote	30	N/A	N/A	N/A	30
Ports Transferred¹					
From Transport Canada	65	40	56	55	216
Status of other former Transport Canada Ports					
Demolished	5	N/A	N/A	N/A	5
Interests terminated	18	N/A	N/A	N/A	18
Deproclaimed ²	211	N/A	N/A	N/A	211

Note: Additional detailed information on ports is presented in Tables A8-1 and A8-2 in the Addendum, including a summary of the provincial distribution of the ports administered by Transport Canada from 1996 to 2003 and a summary of the divestiture status of regional/local and remote ports on a regional basis.

N/A = Not available.

1 Includes 19 sites where facilities have been transferred but harbour bed has not yet been deproclaimed, 64 sites that were transferred to the Department of Fisheries and Oceans and one site that was transferred to Health Canada.

2 Public Harbours deproclaimed in June 1996 and March 1999.

Source: Transport Canada

Vancouver and Sept-Îles reported the highest revenue increases, at \$3.9 million (4.3 per cent) and \$4.4 million (131 per cent), respectively. Sept-Îles had the largest percentage increase. Overall expenditures decreased \$6.7 million, though 12 ports reported increases ranging from \$0.04 million to \$3.0 million.

The overall operating ratio for the CPAs was approximately 83 per cent in 2002, with individual ratios ranging from 38 to 128 per cent. The return on assets was five per cent. The highest return on assets was enjoyed by North Fraser (23.3 per cent), followed by Trois-Rivières (20.2 per cent) and Saguenay (14.9 per cent).

In 2002, overall net income for CPA ports decreased by \$3.7 million. In contrast, 10 of the 19 ports reported increases ranging from \$0.01 million to \$2.6 million, for a combined increase of \$5.8 million. The nine ports reporting decreases had a combined loss of \$9.5 million, with ranges of \$0.14 million to \$4.5 million.

Tonnage for the CPAs was 215.1 million tonnes, down from 219.9 million tonnes in 2001. Five CPAs accounted for 67 per cent of total cargo by volume: Vancouver (29 per cent), Saint John (12 per cent), Sept-Îles (nine per cent), Montreal (nine per cent) and Quebec City (eight per cent). The revenue per tonne increased from \$1.21 in 2001 to \$1.30, while expenses per tonne increased from \$0.98 to \$1.03.

At public ports still under Transport Canada control, gross revenues in fiscal year 2002/03 were \$13.1 million, while expenses were \$19.4 million. The result was an operating revenue shortfall of \$6.3 million and an operating ratio of 148 per cent. Capital expenditures in 2002/03 were \$2.2 million, while \$22.1 million was spent in grants and contributions for port divestiture transfers. Addendum Table A8-6 provides details.

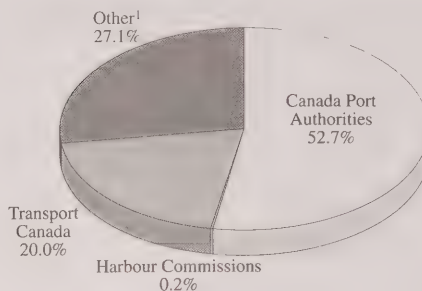
PORT TRAFFIC

Based on preliminary data provided by Statistics Canada (available only up to 2002), Canada's ports handled 407 million tonnes of cargo in 2002, an increase of approximately 3.79 per cent from 2001.

Figure 8-1 shows traffic shares by port groups in 2002, based on port classification as of December 31, 2002.

The following data show the actual traffic (cargo handled) at some CPAs in 2002: Halifax, 12.9 million tonnes; Montreal, 18.3 million tonnes; Prince Rupert, 4.4 million tonnes; Quebec, 17.9 million tonnes; Saguenay, 0.434 million tonnes; Saint John, 25.2 million tonnes; Sept-Îles, 20.1 million tonnes; Thunder Bay, 8.2 million tonnes; Toronto, 1.6 million tonnes; Vancouver, 63.2 million tonnes; and Fraser River, 12.5 million tonnes.

FIGURE 8-1: TRAFFIC SHARES BY PORT GROUPS, 2002



1 Includes the Department of Fisheries and Oceans, provincial and municipal governments, and private facilities.

Source: Transport Canada

In 2002, CPAs handled the largest amount of port traffic, accounting for 52.7 per cent of the total. The one port still classified as a Harbour Commission as of December 31, 2002, handled less than one per cent of the total traffic, while Transport Canada facilities moved 20 per cent of the total cargo. The remaining 27.1 per cent was handled by other facilities, including those managed privately and those managed by or on behalf of the Department of Fisheries and Oceans (DFO) and provincial and municipal governments.

At those declared public ports where Transport Canada has no facilities and cargo is transported across private wharves, cargo shipments totalled 27 million tonnes, or 33 per cent of the total traffic handled by Transport Canada ports. "Other" ports handled approximately 110 million tonnes of cargo. In this category, Port Cartier, Quebec, with approximately 16.2 million tonnes, handled the most cargo, followed by Nanticoke, Ontario, which carried 14.6 million tonnes. The balance of cargo was carried by the remaining 192 ports that reported cargo tonnage to Statistics Canada. (See Addendum Table A8-7.)

SMALL CRAFT HARBOURS

The Department of Fisheries and Oceans currently owns 1,273 harbours across Canada. Of these, 1,023 are fishing harbours and 250 are recreational facilities. DFO's long-term objective is to retain only core active fishing harbours. About 750 are targetted to be kept in the regions. It will divest other harbours (i.e. all recreational and low-activity inactive fishing).

Fishing harbours

Since the late 1980s, a DFO program has supported the creation of local harbour authorities to manage the commercial fishing harbours in their communities. Harbour authorities are local, non-profit organizations, composed of fishers and other harbour users, that lease the harbour from DFO and that provide services, maintenance and harbour management. As of December 31, 2003, harbour authorities managed 670 sites across Canada, about 90 per cent of the DFO program target. Fishing harbours that do not generate enough community interest to form a harbour authority will be divested or, if necessary, demolished. Such harbours are usually low- or no-activity and have a negligible impact on the commercial fishing industry or the community at large. To date, 269 fishing harbours have been divested, while 86 are in the final stage of divestiture.

Table 8-2 reports the fishing harbours remaining in the DFO portfolio as of December 31, 2003, by region and type of management.

TABLE 8-2: DFO FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF DECEMBER 31, 2003

	Harbour Authorities	Small Craft Harbours ¹	Total by Region
British Columbia ¹ and the Yukon ²	72	76	148
Central and Arctic ²	31	37	68
Quebec	47	38	85
Maritimes and Gulf	283	62	345
Newfoundland and Labrador	237	140	377
Total	670	353	1,023

1 Totals include 47 mooring buoy sites in British Columbia.

2 There are no harbour authorities in the Northwest Territories, Nunavut or the Yukon. (In addition, there are no harbour authorities in Saskatchewan.)

3 Department of Fisheries and Oceans.

Source: Department of Fisheries and Oceans

Recreational Harbours

The goal of the DFO program is to divest all 845 recreational harbours in its inventory. Since 1994/95, DFO has divested 643 (or 76 per cent) of its harbours. The DFO disposal strategy, approved by Treasury Board in 1995, permits disposals at a consideration of \$1.00, subject to conditions that include a requirement to maintain public access for at least five years. Prior to transfer, environmental assessments and reasonable repairs are

completed to ensure that facilities are transferred in a safe and reasonable condition. Recipients are mainly municipalities, local non-profit organizations, First Nations or other federal departments. If no public body shows interest in acquiring the facilities, they are offered to the general public at market value. As a last resort, in the absence of public and private interest, the facilities are demolished. The recreational harbour divestiture program is expected to continue for several more years.

Tables 8-3 to 8-5 summarize, by region, the status of the DFO recreational harbour divestiture program (Table 8-3), recipients of harbours divested (Table 8-4) and type of management of the remaining harbour sites in the DFO inventory (Table 8-5).

TABLE 8-4: RECIPIENTS OF DIVESTED DFO RECREATIONAL HARBOURS, AS OF DECEMBER 31, 2003

	Province ¹	Municipality	Private Sector	Other ²	Total by Region
British Columbia and the Yukon	50	0	1	4	55
Central and Arctic	18	194	20	54	286
Quebec	3	169	2	49	223
Maritimes and Gulf	4	19	4	51	78
Newfoundland and Labrador	0	1	0	0	1
Total	75	383	27	158	643

1 Just over half these properties were subject to provincial reversionary interests.

2 "Other" in the context of the divestiture of recreational harbours refers to sites that have been transferred to local non-profit organizations, First Nations or other federal departments, as appropriate.

Source: Department of Fisheries and Oceans

TABLE 8-5: DFO RECREATIONAL HARBOURS BY MANAGEMENT TYPE, AS OF DECEMBER 31, 2003

	Managed Under Lease	Small Craft Harbours ¹	Other ¹	Total by Region ²
British Columbia and the Yukon	2	0	8	10
Central and Arctic	108	40	12	160
Quebec	3	27	0	30
Maritimes and Gulf	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	113	69	20	202

1 "Other" refers to a variety of management and non-management situations. Some construction works, such as shoreline reinforcement or breakwaters, are largely stable and do not require ongoing management. Some facilities are part of a larger development (i.e. a marina) and managed as part of that development. In other cases, facilities no longer exist at the site and there is nothing to manage.

2 Remaining recreational harbours in small craft harbours inventory as of December 31, 2003.

3 Department of Fisheries and Oceans.

Source: Department of Fisheries and Oceans

TABLE 8-3: DFO RECREATIONAL HARBOURS DIVESTED BY REGION, AS OF DECEMBER 31, 2003

	Fully Divested 1995/2003	Fully Divested 2003/04	Final Stage of Divestiture	Total Divested	Remainder to be Divested	Regional Total
British Columbia and the Yukon	51	1	3	55	10	65
Central and Arctic	264	3	19	286	160	446
Quebec	192	5	25	222	30	252
Maritimes and Gulf	77	1	1	79	1	80
Newfoundland and Labrador	0	1	0	1	1	2
National Totals	584	11	48	643	202	845

Source: Department of Fisheries and Oceans

MARINE PILOTAGE

In Canada, four regional pilotage authorities offer safe and efficient pilotage services: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA). These pilotage authorities direct and control the navigation and/or ship handling of a vessel through coastal and inland waterways. Each responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region.

In 2003, three of the four pilotage authorities generated enough revenues to cover their expenses. These results represent a return toward a positive net income after the recent downward trend of 2000 and 2001. Table 8-6 shows the financial results for the four pilotage authorities in 2003.

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2003

(Millions of dollars)			
<i>Pilotage Authority</i>	<i>Revenues</i>	<i>Expenditures</i>	<i>Net Income (Loss)</i>
Atlantic Pilotage Authority (APA)	16,438	15,463	975
Laurentian Pilotage Authority (LPA)	47,747	47,292	455
Great Lakes Pilotage Authority (GLPA)	11,650	14,266	(2,616)
Pacific Pilotage Authority (PPA)	43,760	42,047	1,713
Total Pilotage Authorities	119,595	119,068	527

Source: Pilotage Authorities' Annual Reports (2003 preliminary)

The efficiency of pilotage services is commonly measured by the average number of assignments per pilot. Based on this measure, efficiency increased between 1996 and 1998 but declined afterward. The variations between the authorities and from year to year are related to traffic levels. Assignments in different regions and in different areas of the same region (e.g. the Atlantic region) require various times to complete and may be vastly different from one another. Overall, there were slightly more total assignments in 2003 than in 2002.

Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2003. For information on other years, see Table A8-8 in the Addendum.

TABLE 8-7: TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2003

<i>Pilotage Authority</i>	<i>Indicators</i>	<i>2003</i>
Atlantic (APA)	Total Assignments	12,510
	Assignments Per Pilot	223
Laurentian (LPA)	Total Assignments	19,599
	Assignments Per Pilot	114
Great Lakes (GLPA)	Total Assignments	5,943
	Assignments Per Pilot	94
Pacific (PPA)	Total Assignments	12,952
	Assignments Per Pilot	118
Total All Authorities	Total Assignments	49,004
	Assignments Per Pilot	123

Source: Pilotage Authorities' 2003 draft annual reports

CANADIAN COAST GUARD

The Canadian Coast Guard (CCG) is an integral part of the Department of Fisheries and Oceans. The CCG's mission is to ensure the safe and environmentally responsible use of Canada's waters. It achieves this mission through five major activities: marine navigation services; marine communications and traffic services; icebreaking operations; rescue, safety and environmental response; and fleet management. The activities cover a range of marine programs, policies and services that deal with a broad cross-section of clients within the marine community. These clients include commercial shipping interests, recreational boaters, the fishing industry, and provincial, municipal and territorial governments, as well as other federal government departments and marine associations.

The Coast Guard also serves the general public through its role in preserving ecosystems, ensuring that water supplies remain unpolluted by oil and chemical spills, and protecting recreational resources.

The CCG's Marine Navigation Services (MNS) aim at providing safe, efficient and accessible waterways by operating and maintaining a system of navigation aids; ensuring safe and efficient use of shipping channels; ensuring the environmentally sustainable development of marine transportation; and protecting the public right to navigation.

All CCG functions associated with Marine Communications and Traffic Services (MCTS) are derived from a regulatory framework based primarily on the *Canada Shipping Act* and the *Safety of Life at Sea Convention*. MCTS provides distress and safety communications and coordination; vessel screening to prevent entry of unsafe vessels into Canadian waters; regulation of vessel traffic movements; and management of an integrated system of marine information and public correspondence services. Along with ensuring safe

marine navigation, MCTS also supports economic activities by optimizing traffic movements and port efficiency, and facilitating industry ship-shore communications.

Under its MCTS functions, the Coast Guard has developed installation strategies for an Automatic Identification System (AIS). This is a leading-edge marine navigation technology that allows increased surveillance of vessels with "near real-time" identification and tracking of vessels approaching and operating in Canadian waters. To improve its communications capability, MCTS implemented the Global Maritime Distress Safety System (GMDSS) on August 1, 2003, on the east and west coasts of Canada.

Following the events of September 11, 2001, as a means of enhancing public safety, security and the uninterrupted flow of commerce, the Canadian and U.S. coast guards established an advance notification requirement for vessels entering Canadian/American waters. Vessels over 300 gross tonnage inbound to Canadian waters must file an Offshore Advance Report with Canadian authorities 96 hours before entering Canadian waters from seaward.

Icebreaking Operations activities include providing icebreaking escorts, channel maintenance, flood control, harbour breakouts, and ice-routing and information services for marine traffic navigating through or around ice-covered waters and for the general public. Under its icebreaking activities, the CCG provides a wide range of services with a more client-focused, demand-driven service under which commercial users pay a percentage of allocated costs in the form of an icebreaking service fee.

The Rescue Safety and Environmental Response (RSER) business line encompasses three major activities: maritime search and rescue (SAR); environmental response; and the office of boating safety, which regulates recreational boaters, recreational boats and recreational boating activities. Its main objective is to save lives and protect the marine environment.

In 2003, the Coast Guard moved forward with the implementation of major new regulating measures to improve boating safety. These cover mandatory operator competency; age-horsepower restrictions; modernization of small vessel regulations; and search and rescue prevention and boating safety programs to reduce the number and severity of maritime incidents.

The acquisition, maintenance and scheduling of DFO's fleet and equipment required to deliver core marine services to Canadians is also part of Coast Guard's functions. This includes dealing with matters such as fleet operational requirements and planning; vessel resource allocation; resource utilization and redeployment; fleet management support; related management information systems; vessel crewing; fleet performance management and costing systems; and management roles and accountabilities.

Over the past several years, the CCG has introduced three commercial user fees: the marine navigation service fee, in June 1996; the transit-based icebreaking services fee, in 1998; and the maintenance dredging services tonnage fee, in September 1997. For more information on the CCG functions, visit www.ccg-gcc.gc.ca.

FINANCIAL PROFILE

Table 8-8 shows the Coast Guard's financial results for the last four fiscal years. Results for 2003/04 reflect forecast expenditures to fiscal year-end and will not be finalized until the end of the fiscal year.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND EXPENDITURES, 2000/01 – 2003/04

	(Millions of dollars)			
	2000/01	2001/02	2002/03	2003/04
Revenue	43.4	35.5	37.0	38.2
Gross Expenditures	495.5	475.3	498.0	521.3
Net Expenditures	452.1	439.8	461.0	483.1

Source: Department of Fisheries and Oceans

In compliance with the Government of Canada's cost recovery policy, the Coast Guard has taken a number of measures to recover a portion of the costs it incurs in providing services to industry.

- In June 1996, the CCG introduced the Marine Navigation Services Fee, which is intended to collect \$27.7 million annually, including administrative costs.
- In 1998, the CCG introduced a transit-based Icebreaking Services Fee, which is intended to collect \$6.9 million annually, including administrative costs.

- The Maintenance Dredging Services Tonnage Fee, established in September 1997, was originally intended as an interim measure to cover the full costs that the CCG incurred in providing maintenance dredging services in the St. Lawrence Ship Channel. The Coast Guard continues to work with representatives from the commercial marine transportation industry to arrive at a long-term arrangement, inducing the transfer of responsibilities to industry for these dredging services

Table 8-9 breaks down the Coast Guard's revenues and expenditures by its five main business lines for fiscal year 2003/04. Both revenues and expenditures are forecasts only and will not be finalized until the end of the fiscal year.

TABLE 8-9: CANADIAN COAST GUARD REVENUES AND BUDGETED EXPENDITURES, 2003/04

(Millions of dollars)

	<i>MNS</i>	<i>MCTS</i>	<i>ICE</i>	<i>RSER</i>	<i>Fleet</i>
Revenues	29.4	0.1	13.8	0.2	0.0
Gross Expenditures	117.9	70.4	57.2	117.8	131.0
Net Expenditures	88.5	70.3	43.4	117.6	131.0

Note: MNS: Marine Navigation Services; MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; RSER: Rescue, Safety and Environmental Response; CCG: Canadian Coast Guard.

Source: Department of Fisheries and Oceans

ST. LAWRENCE SEAWAY

A unique inland waterway extending into the industrial heartland of North America, the St. Lawrence Seaway serves 15 major international ports and 50 regional ports on both sides of the Canada–U.S. border.

The Seaway is made up of two main sections, the Montreal–Lake Ontario (MLO) section and the Welland Canal section. The Welland Canal section joins Lake Ontario to Lake Erie via eight locks over 42 kilometres. The MLO section joins Montreal to Lake Ontario via seven locks over 300 kilometres, five in Canada and two in the United States.

Under a 20-year Management, Operation and Maintenance Agreement with the federal government, extending to March 31, 2018, responsibility for the operations and maintenance of the navigational aspects of the Canadian Seaway resides with the St. Lawrence Seaway Management Corporation (Seaway Corporation). The Seaway Corporation is constituted as a not-for-profit corporation by Seaway users and other interested parties. Detailed cost targets have been negotiated for each of the first two five-year periods of the 20-year agreement and form part of the agreement. During the first five years, ending March 31, 2003, no government funding was required, as deficits were covered from reserve funds.

The current five-year plan (began April 1, 2003) reflects the results of intensive negotiations between Transport Canada officials and senior Seaway Corporation officers. Transport Canada was supported by a two-stage due diligence process that included financial advisors and technical engineering experts. The final proposal agreed to by the federal government and the Seaway Corporation included an increase in the Asset Renewal Plan by 36 per cent to a five-year total of \$170 million.

The Montreal–Lake Ontario section of the Seaway opened in 1959 while the Welland Canal section in 1932. The costs associated with maintaining the existing infrastructure are rising. Future investment in maintaining the Seaway infrastructure needs to be well planned to respond to market opportunities and to facilitate trade, including the maintenance of the two U.S. locks in New York State that are an integral part of the Seaway. On May 1, 2003, the Minister of Transport signed a Memorandum of Cooperation with the U.S. Secretary of Transportation, agreeing to participate with the U.S. Department of Transportation and the U.S. Army Corps of Engineers on a comprehensive set of studies over a 30-month period to assess the ongoing maintenance and capital requirements of sustaining and optimizing the Great Lakes/Seaway system and the existing marine infrastructure on which it depends.

During the 2003 season, estimated combined traffic on the two sections of the Seaway was approximately 40.85 million tonnes, 1.3 per cent lower than in 2002. Iron ore was the most prominent among commodity shipments, with 10.65 million tonnes, up 10.5 per cent. Grain continued its downward trend with a 7.8 per cent drop in volume carried. Other commodities associated with the steel industry and other bulk cargo declined by approximately five per cent. Tables 8-10 and 8-11 show cargo movements and traffic by commodities, respectively, for 2002 and 2003. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

TABLE 8-10: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2002 AND 2003

(Thousands of tonnes)

<i>Year</i>	<i>Montreal–Lake Ontario Section</i>	<i>Welland Canal Section</i>
2002	30,002	32,108
2003 ¹	28,878	31,876

1. 2003 figures are estimated.

Source: St. Lawrence Seaway Management Corporation

TABLE 8-11: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2002 AND 2003

(Thousands of tonnes)

Year	Grain	Iron Ore	General Cargo	Coal	Other	Total
2002	10,462	9,640	4,157	4,114	13,015	41,388
2003 ¹	9,646	10,642	2,546	4,189	13,810	40,853

Note: Combined traffic in the two sections of the Seaway.

¹ 2003 figures are estimated.

Source: St. Lawrence Seaway Management Corporation

RATES AND TARIFFS

As part of the negotiated agreement with Transport Canada, the Seaway Corporation implemented a 2.23 per cent toll increase for the Canadian section of the Seaway in 2003, based on the annual average percentage change in the Consumer Price Index. However, as the Seaway Corporation's expenditures were lower than business plan targets and obligations for the fifth consecutive year, it was able to apply a one per cent toll reduction as per the agreement, bringing the net increase to 1.23 per cent.

FINANCIAL PROFILE

In fiscal year 2002/03, Seaway revenues from tolls and other sources stood at \$66.8 million, compared with \$65.7 million in 2001/02. Toll revenues rose slightly to \$63.5 million but were still well below the \$73.4 million collected in 2000/01. This reflects the continuing economic slowdown in the North American economy and strong competition from other modes and routes for Seaway traffic.

Operating expenses in 2002/03 totalled \$58.4 million, up from \$53.2 million the previous year. This was due largely to expenses associated with the difficult weather conditions prior to the opening of the Seaway. Salaries, wages and benefits accounted for the major part of this total. Expenditures for the asset renewal program stood at \$24.2 million, compared with \$24.5 million in the previous year.

Table 8-12 compares the financial performance of the St. Lawrence Seaway from 2000/01 to 2002/03.

TABLE 8-12: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 2000/01 TO 2002/03

(Thousands of dollars)

Year ¹	Revenues	Expenditures	Excess of Revenues Over Expenses	Net Excess of Revenues Over Expenses ²
2000/01	76,031	80,045	(4,014)	(1,821)
2001/02	65,730	79,120	(13,390)	(2,646)
2002/03	66,815	84,394	(17,579)	(4,015)

¹ April 1 to March 31.² Following contribution from Capital Trust Fund.

Source: St. Lawrence Seaway Authority/St. Lawrence Seaway Management Corporation

INDUSTRY STRUCTURE

Canada's marine industry includes a fleet of Canadian-flag operators that provide domestic and transborder shipping services. International trades are served largely by foreign-flag operators that call at Canada's major ports.

DOMESTIC SERVICES

Canada's merchant fleet handles most domestic shipments of bulk materials on the Great Lakes and along Canada's coastline. This fleet is made up of self-propelled vessels of at least 1,000 gross tonnes¹ flying the Canadian flag. At 2003 year-end, it included 181 vessels and almost 2.3 million gross tonnes.

Although declining, dry bulk carriers remain the backbone of the Canadian merchant fleet, accounting for 47 per cent of tonnage and 33 per cent of vessels in 2003. The dry bulk fleet was made up of 60 vessels in 2003, composed of straight-deck bulkers dedicated mainly to grain transportation and self-unloading vessels carrying various bulk commodities. By comparison, the number of tankers decreased from 39 in 1983 to 23 in 2003, while their capacity share increased from 10 to 24 per cent of total gross tonnage, due to the addition of larger units. In the last 10 years, the capacity of general cargo vessels also increased (from four to 12 per cent of total gross tonnage).

¹ Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as deadweight in tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

An extensive fleet of tugs and barges was also in operation at the domestic and international level. In 2003, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 328 tugs (131,000 gross tonnes) and 1,203 barges and scows (almost 1.2 million gross tonnes).

Table 8-13 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1983, 1993 and 2003.

TABLE 8-13: CANADIAN-REGISTERED FLEET BY TYPE, 1983, 1993 AND 2003

<i>Type of Carriers</i>	<i>Gross Tons (Thousands of tons)</i>			<i>Number of Vessels</i>		
	1983	1993	2003	1983	1993	2003
Dry bulk	1,967	1,380	1,165	133	79	65
Tankers	285	244	559	41	33	24
General cargo	81	79	206	21	14	27
Ferries	258	295	365	56	56	61
Other	73	35	35	13	8	6
Total	2,665	2,033	2,330	263	190	183

Note: Self-propelled vessels of 1,000 gross tons and over, including government-owned ferries.

Source: Canadian Transportation Agency and Transport Canada

EASTERN CANADA

Freight services in eastern Canada, including the Arctic, are provided by a fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels. The three largest operators in the Great Lakes–St. Lawrence region are Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines.

While there were no acquisitions or mergers among Great Lakes ship operators in 2003, Algoma Central Corporation and Upper Lakes Group Inc. entered into a memorandum of understanding to increase the scope of their Seaway Marine Transport partnership. The new arrangements are expected to increase efficiency by integrating the operations, purchasing, accounting and administrative functions of the respective fleets, in addition to the joint marketing functions already performed by Seaway Marine Transport.

WESTERN CANADA

Domestic marine cargo services on the West Coast are provided by a large tug and barge fleet. Most operators are involved mainly in the domestic trades but some also trade internationally between Canadian and U.S. ports.

Several of the largest tug and barge operations are controlled by the Washington Marine Group. These include Seaspan International Ltd., the largest Canadian tug and barge operator on the West Coast; Cates Tugs; Norsk; and Kingcome Navigation Company, formerly owned by MacMillan Bloedel. The second-ranked tugboat company in British Columbia is Rivtow Marine Ltd.

NORTHERN CANADA

In the Western Arctic, the principal marine operator for the Mackenzie River Watershed, (including the Mackenzie River and Great Slave Lake), the Arctic coast and islands, and Alaska is Northern Transportation Company Limited (NTCL). NTCL's principle concerns are bulk petroleum products and dry cargo for communities, defence installations and gas exploration sites across the North. Prior to the 2003 season, it also provided tug and barge operations from the Port of Churchill to communities in what is now the Kivalliq region of Nunavut.

In the Eastern Arctic, responsibility for the Arctic Sealift, for dry cargo and bulk fuel, now rests with the Government of Nunavut. For many years, this was organized by the Canadian Coast Guard. For the 2003 season, the Nunavut government awarded dry cargo sealift contracts for the Kivalliq and Baffin regions to two Inuit-owned companies. Nunavut Sealink and Supply Inc. (NSSI), a partnership between Transport Desgagnés and Arctic Cooperatives Ltd., served the seven Kivalliq region communities, plus four Baffin communities. Nunavut Eastern Arctic Shipping (NEAS) served the other 10 Baffin communities. The cargo was shipped from Montreal.

Although the Sealift contract is with the Government of Nunavut, the contract stipulates that any person or company can also use the service and enjoy the same rates and services.

The Woodward Group was awarded the contract to deliver bulk fuel to Nunavut communities. One tanker will be carrying fuel from Montreal to the region while a smaller tanker will deliver fuel to communities in the Kivalliq region from a marine tank farm at Churchill.

In addition to the Arctic Sealift for Nunavut communities, resupply services to the Nunavik Region are managed by the Quebec Ministry of Transportation, while the James and Hudson Bay Cree are served out of Moosoney (cargo originates in the Toronto region). Moosonee Shipping has also established a service for private cargo re-supply from Churchill to the Kivalliq region.

Mining operations in the Arctic regions also have vessels calling with supplies inbound and carrying zinc and lead concentrates to world markets outbound.

INTERNATIONAL SERVICES

International marine freight transport is made up of bulk shipping and liner shipping.

Bulk shipping is marine freight carried as single cargoes and in large volume. Examples of Canadian bulk cargoes include coal, iron ore and potash.

The bulk freight industry is made up of time charters (term contracts) and "spot" or "tramp" carriers that operate on the basis of short-term contracts for a specified number of voyages or days or for a given quantity of cargo. This industry operates in a competitive market. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flagged ships.

The international liner trade refers to high-value containerized cargo. This trade is dominated by large fleets of specialized container vessels operating on major trade routes around the world. Most of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews. Shipping lines calling at Canadian ports may provide conference or non-conference liner services. Ocean carriers (i.e. individual lines) providing liner services on a common trade route will often form a shipping conference and adhere to rates and/or conditions of service under a conference agreement. Such practices are exempted from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA).

By offering rates and services comparable with those of conference operators, independent shipping lines (also called non-conference carriers) contribute to a competitive international shipping industry. Shipping lines sometimes choose to be a conference member on certain routes and an independent operator on others.

SERVICES AVAILABLE TO CANADIAN SHIPPERS

In 2003, the Canadian Transportation Agency had 15 shipping conference agreements on file. Conferences are no longer required to file their tariffs with the Agency.

Five of the conferences operate between Eastern Canada, Northern Europe and the Mediterranean. Some of the major lines serving Canada as conference members are Atlantic Container Line, Canada Maritime Ltd., Hapag-Lloyd Container Line, P&O Nedlloyd, MITSUI O.S.K. Lines and Orient Overseas Container Lines.

Table 8-14 lists the 15 Conference Agreements.

TABLE 8-14: SHIPPING CONFERENCES SERVING CANADA IN 2003

1. Canadian Continental Eastbound Freight Conference (E)
2. Canada-United Kingdom Freight Conference (E)
3. Continental Canadian Westbound Freight Conference (E)
4. Australia-Canada Container Line Association (E & W)
5. Mediterranean Canadian Freight Conference (E)
6. Canada/Australia-New Zealand Association Carriers (CANZAC) (E & W)
7. New Zealand-Canada Container Lines Association (E & W)
8. Canada Transpacific Stabilization Agreement (E & W)
9. Mediterranean North Pacific Coast Freight Conference (Canada) (W)
10. Canada/Australia-New Zealand Discussion Agreement (E & W)
11. Canada North Atlantic Westbound Freight Conference (E)
12. Canada Westbound Transpacific Stabilization Agreement (E)
13. Joint Mediterranean Canada Service Agreement (E)
14. Canadian Pacific/Latin American Freight Service (W)
15. Columbus/Maruba Working Agreement (W)

Notes: E = East Coast; W = West Coast

Source: Canadian Transportation Agency

Competition between conference and non-conference carriers benefits shippers, as does competition within conferences through the independent action provision contained in the SCEA. This provision allows individual conference lines to offer a rate, or services, different from those found in the conference tariff. Under the 2002 SCEA, the period by which an individual conference member must notify its other conference members of its intention to take independent action on rates and other service items was reduced from 15 days to five days.

In addition, the 2002 SCEA allows an individual conference line to sign service contracts with shippers without disclosing the contract terms and conditions to the conference. It also allows a conference and a shipper to negotiate and sign confidential, conference-wide service contracts. These contracts must, however, be filed with the Canadian Transportation Agency in order to comply with the SCEA.

In 2003, the Canadian Transportation Agency accepted filings for 25 service contracts,² 26 fewer than in 2002. The contracts applied to both inbound and outbound traffic and to origins and destinations on both the east and west coasts of Canada.

² Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

PASSENGER TRANSPORTATION

FERRY SERVICES

Most major ferry operators in Canada are members of the Canadian Ferry Operators Association (CFOA). Canada's ferry services are, however, marked by wide differences in services, ownership and vessel type used. Owners range from small, private operators to provincial governments and federal Crown corporations. Terminals and docking facilities are also owned, leased and operated by ferry companies, municipalities, private companies and federal and provincial governments. Vessel types vary from small cable ferries to large cruise-type vessels and fast ferries, while operations range from seasonal to year-round service.

For details on the major ferry services, see Addendum Table A8-11. In addition, most major ferry services have their own Web sites, routes and rates.

While traffic figures for 2003 for all members of the CFOA are not yet available, the 2002 traffic figures are a good indication of the relative size of CFOA operations. Estimates of total passenger traffic stand at more than 39 million passengers and 15.4 million vehicles. This represents approximately 14 per cent of total worldwide ferry traffic, a one per cent reduction from 2001.

By far, the British Columbia Ferry Corporation is the largest operator in Canada, carrying approximately 21.5 million passengers and eight million vehicles in 2002. British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation also operate inland ferry services, carrying another 6.6 million passengers and three million vehicles in 2002. In Quebec, La Société des traversiers du Québec carried 5.5 million passengers and 2.7 million vehicles.

In 2003, Marine Atlantic Inc., a federal Crown corporation, carried 455,000 passengers and 230,000 vehicles between Newfoundland and Labrador and Nova Scotia, an 11 per cent decrease in traffic. Private ferry operators subsidized by the federal government also carried fewer passengers and vehicles in 2003, approximately 925,000 passengers and 324,000 vehicles. The remaining CFOA members, including provincial operations in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately four million passengers and 1.8 million vehicle crossings.

In Atlantic Canada, federally supported ferry services are now limited to those provided by Marine Atlantic Inc. and two private-sector operators, Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée. The federal government also provides an annual grant to British Columbia that is directed to BC Ferries.

CRUISE SHIP INDUSTRY

The large cruise vessels calling at Canada's ports are owned by foreign-based companies and fly foreign flags. These vessels offer two basic types of extended cruises: the luxury cruise and the "pocket" cruise, distinguished by vessel capacity of typically less than 150 passengers.

After the Caribbean and the Mediterranean, Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world. For these voyages, Vancouver and, increasingly, Seattle serve as "home ports," where passengers embark and/or disembark. In 2003, Vancouver experienced its first decline in cruise traffic in 21 years, with traffic down by 15 per cent from 2002 to 953,376 passengers. This decline was attributable to several factors: the loss of the three- and four-night Pacific Northwest Cruises; the impact of world events on travel and tourism; and the ability of the Port of Seattle to attract cruise ships by opening new facilities.

In eastern Canada, luxury cruise vessels regularly sail out of New York and up the eastern seaboard, calling in Halifax, Charlottetown and other east coast ports before entering the St. Lawrence River to stop at Quebec City and Montreal. Shorter cruises also sail out of New York or Boston and travel to Halifax, Saint John and other Atlantic ports. Many ports have been investing in new facilities to serve cruise passengers, including Quebec City, whose new cruise terminal opened in 2002. Saint John is the latest port to announce that it is building a new cruise facility in anticipation of future traffic increases.

Table 8-15 shows the international cruise ship traffic at major Canadian ports in 2002 and 2003. A longer time series is provided in Addendum Table A8-12. Other Canadian ports also benefit from calls by cruise lines, including Victoria, Charlottetown, St. John's and Sydney, Nova Scotia.

TABLE 8-15: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2002 AND 2003

(Passengers)

Year	Vancouver	Montreal	Quebec City	Halifax	Saint John
2002	1,125,252	38,000	66,365	157,036	71,168
2003 (prel.)	953,376	33,600	59,000	170,425	83,946

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

In 2002, marine freight traffic totalled 345³ million tonnes, a 1.35 per cent increase from 2001. Domestic flows⁴ accounted for about one sixth of this (62.6 million tonnes), 16 per cent more than in 2001 (53.9 million tonnes). Of these domestic flows, Canadian-flag vessels carried an overwhelming 95.5 per cent (59.8 million tonnes). In 2002, Canada–U.S. traffic totalled 114.3 million tonnes, a 5.9 per cent increase over 2001. Of this, Canadian-flag vessels accounted for about 44 per cent, for a total of 50.4 million tonnes. “Other” international (deep-sea or overseas) traffic⁵ decreased by 5.9 per cent in 2002 to 168 million tonnes. Canadian-flag vessels carried only 0.1 per cent of this traffic.

Table 8-16 shows Canada's marine traffic statistics, by sector, in 2001 and 2002. Addendum Table A8-13 covers the same information from 1986 to 2002.

Table 8-17 shows the share of Canadian waterborne trade carried by Canadian-flag vessels in 2002.

TABLE 8-16: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2001 AND 2002

(Millions of tonnes)

	Flows			Total Flows	Total Handled
	Domestic	Transborder	Overseas		
2001	53.9	108.0	178.9	340.8	394.7
2002	62.6	114.3	168.4	345.4	407.9

Source: Statistics Canada, *Shipping in Canada*, Cat. 54-205

TABLE 8-17: CANADIAN-FLAG SHARE OF CANADIAN WATERBORNE TRADE, 2002

(Millions of tonnes)

Canadian Waterborne Trade	Canadian Flag	Per cent	U.S. Flag	Per cent	Foreign Flag	Per cent	Total Traffic
Domestic	59.8	95.5	0.0	0.0	2.8	4.5	62.6
Canada/U.S.	50.4	44.1	10.3	9.0	53.6	46.9	114.3
Deep-Sea	0.2	0.1	0.5	0.3	167.7	99.6	168.4
Total	110.4	32.0	10.8	3.1	224.1	64.9	345.3

Source: Statistics Canada and Transport Canada

DOMESTIC MARINE FREIGHT TRAFFIC

COASTING TRADE ACTIVITY FOR 2003

The transportation of passengers and cargoes as well as marine-related activities in Canadian waters is reserved to Canadian-registered duty-paid ships. This reservation also applies to the exploration and exploitation of non-living natural resources in Canada's continental shelf. If, however, no Canadian ship is available or capable of providing a particular service, then foreign-registered ships can apply to the Canada Customs and Revenue Agency (CCRA) for licences to enter Canada's coasting trade.

In 2003, CCRA received 107 applications for a coasting trade licence, 30.5 per cent more than in 2002. Of these, 61 were for the carriage of goods, 37 were for a commercial activity and nine were for the transportation of passengers. For the first time since the *Coasting Trade Act* came into force in December 1992, the Bahamian flag was the predominant foreign flag involved in Canadian waters, with 23 requests. The United States flag was second with 20 requests.

The highest percentage of activity continued to be for vessels in the offshore oil and gas exploration and production industry. In 2003, there were 46 tanker requests, 18 for seismic vessels and five for drill ships and rigs. As offshore activity shifts from exploration to production, the requirement for large-capacity shuttle tankers is increasing.

Table 8-18 shows the actual tonnage and percentage of total domestic cargo tonnage carried by foreign-registered vessels in 2001 and 2002. Table A8-14 in the Addendum gives this same information over a longer time period.

TABLE 8-18: SHARE OF TONNAGE CARRIED BY FOREIGN-FLAG SHIPS IN THE CANADIAN COASTING TRADE, 2001 – 2002

Year	Canadian	Per cent	Foreign	Per cent	Total
2001	52,803,710	97.96	1,099,099	2.04	53,902,809
2002 ¹	59,804,175	95.49	2,822,114	4.51	62,626,289

¹ Significant increase of “Crude Petroleum Oils” shipments from Grand Bank (Hibernia) and Come-By-Chance by foreign-flag ships.

Source: Transport Canada, from data supplied by Statistics Canada

3 Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double counted).

4 Maritime traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, the volumes get counted twice.

5 “Other” international traffic includes shipments to and from foreign countries other than the United States.

As it is both loaded and unloaded at Canadian ports, domestic cargo is handled twice within the Canadian port system. Shipments of domestic cargo grew by 17.6 per cent to 8,723 million tonnes in 2002. Decreased shipments of pulpwood, logs and bolts, iron ore, stone and gravel were offset by a significant growth in shipments of crude petroleum, fuel oil, wheat and coal.

Table 8-19 shows flows of domestic marine traffic by region in 2002.

TABLE 8-19: MARINE DOMESTIC FLOWS BY CANADIAN REGION, 2002

Region of origin (Loadings)	Region of Destination (Unloadings)				All Regions
	Atlantic	St. Lawrence	Great Lakes	Pacific	
Atlantic	18,130	3,169	376	6	21,681
St. Lawrence	878	4,559	6,181	1	11,619
Great Lakes	300	4,393	8,849	0	13,542
Pacific	4	0	0	15,780	15,784
All Regions	19,312	12,121	15,406	15,787	62,626

Source: Statistics Canada, *Shipping in Canada, Cat. 54-205*

Most domestic traffic passes through the Great Lakes–St. Lawrence Seaway system. In 2002, the ports serving the Seaway handled 52.7 million tonnes (loadings and unloadings), or 42.1 per cent of the total domestic tonnage. Pacific region ports handled 25.2 per cent of the total (31.6 million tonnes). Pacific ports handled 1.1 million tonnes more domestic cargo in 2002 than in 2001, 99.97 per cent of which originated and terminated within that region. Atlantic region ports handled 41.0 million tonnes of domestic cargo in 2002, an 82 per cent increase from 2001.

Following are the primary commodities handled in the domestic trade across Canada in 2002:

- crude petroleum (30.7 million tonnes, up 176 per cent from 2001)
- pulpwood and chips (14.8 million tonnes, up 9.8 per cent)
- stone, limestone, sand and gravel (13.1 million tonnes, down 7.6 per cent)
- iron ore and concentrates (11.3 million tonnes, down 2.9 per cent)
- logs and other wood (8.3 million tonnes, up 6.5 per cent)
- fuel oil (7.3 million tonnes, down 17 per cent)
- wheat (6.9 million tonnes, down 18.7 per cent)

Together, these commodities represent almost three quarters (74 per cent) of all domestic tonnage handled at Canadian ports in 2002.

INTERNATIONAL MARINE FREIGHT TRAFFIC

In 2002, Canadian ports handled 282.7 million tonnes of international cargo. This was down 1.4 per cent from 2001. Of this, 61.6 per cent was export-oriented (including in-transit and re-export traffic). Japan, China, South Korea, the United Kingdom and other western European nations accounted for about 60 per cent of Canada's total international (excluding U.S.) marine traffic (exports and imports).

CONFERENCE/NON-CONFERENCE MARKET SHARES

Non-conference traffic has grown consistently in recent years, both in absolute terms and as a percentage of total liner traffic. In 2002, non-conference traffic increased to 18.1 million tonnes, while conference traffic grew to 10.8 million tonnes. Non-conference operators still moved more than 60 per cent of the total liner traffic. If non-conference U.S. origin/destination transshipped traffic is taken into account, the non-conference share becomes even more dominant.⁶

Table 8-20 compares the conference and non-conference shares of Canadian liner trade between 2001 and 2002. Table A8-15 in the Addendum shows data from 1994.

TABLE 8-20: CONFERENCE/NON-CONFERENCE SHARES OF CANADIAN LINER TRADE, 2001 – 2002

	(Millions of tonnes)	
	2001	2002
Conference		
Exports	3.7	3.5
Imports	6.6	7.3
Total	10.3	10.8
Non-conference		
Exports	11.6	12.7
Imports	5.8	5.4
Total	17.4	18.1

Source: Transport Canada, *International Database*; Statistics Canada

In terms of the type of cargo carried, 2002 was like previous years in that conference operators tended to concentrate almost exclusively on containerized traffic: 10.6 million of the 10.8 million tonnes of cargo they carried was in containers. Non-conference traffic is also increasingly characterized by a large percentage of cargo in containers (14.8 million tonnes in 2002) but it includes general cargo and neobulk traffic as well.

6 It is important to note that the data in the tables are not adjusted for U.S. transshipments moving through Canadian ports. Much of this traffic moves on conference vessels but at non-conference rates. The route most likely affected by these transshipments is the one between Europe and Canada. Montreal estimates that approximately 50 per cent of its liner traffic originates in or is destined for the United States. In addition, Halifax is handling growing amounts of U.S. Midwest traffic. This would, of course, affect the balance between conference/non-conference traffic further in favour of the independent operators.

It is also useful to break down liner traffic by foreign region of origin/destination in order to illustrate the relative shares of conference and non-conference operators on different routes. Table 8-21 compares conference and non-conference liner traffic by region for 2002.

TABLE 8-21: LINER TRAFFIC BY REGION, 2002

	(Millions of tonnes)				
	Liner Imports		Liner Exports		
Region	Conference	Non-conference	Conference	Non-conference	Total
Europe	4.4	1.9	3.4	1.6	11.4
Asia	2.8	2.5	-	8.9	14.2
Central America	-	0.1	-	0.7	0.8
South America	-	0.2	-	0.5	0.7
Other America	-	0.2	-	0.4	0.6
Middle East	-	0.2	-	0.3	0.5
Oceania	0.1	0.1	0.1	0.2	0.3
Africa	-	0.2	-	0.2	0.4
Total	7.3	5.4	3.5	12.8	28.9

Note: - means Nil.

Other America = North America plus Greenland and Saint Pierre and Miquelon.

Source: Transport Canada, International Database; Statistics Canada

CANADA-U.S. FREIGHT TRAFFIC

Canada's marine traffic to and from the United States totalled 114.3 million tonnes in 2002, up by 5.9 per cent from 2001. Imports (unloadings from U.S. origins)⁷ decreased by 9.7 per cent in 2002, while exports (loadings to U.S. destinations) grew by 17.5 per cent.

Table 8-22 shows Canada's maritime trade with the United States in 2001 and 2002. Addendum Table A8-16 shows the same information since 1986.

TABLE 8-22: CANADA'S MARITIME TRADE WITH THE UNITED STATES, 2001 - 2002

	(Millions of tonnes)		
	Loaded	Unloaded	Total
2001	62.0	45.9	107.9
2002	72.9	41.4	114.3

Source: Statistics Canada, Cat. 54-205; Transport Canada

In 2002, loadings at Canadian ports destined to the United States totalled 72.9 million tonnes. Seven commodities accounted for 80 per cent of this volume: crude petroleum (15.2 million tonnes); stone, limestone, sand and gravel (10.5 million tonnes); gasoline (9.5 million tonnes); fuel oil (6.6 million tonnes); gypsum (6.6 million tonnes); iron ore (6.6 million tonnes); and salt (3.6 million tonnes).

From 2001 to 2002, significant changes took place in the volumes of major commodities exported to the United States. Crude petroleum exports jumped by 38.6 per cent; stone, limestone, sand and gravel by 11.6 per cent; gasoline

by 23.5 per cent; fuel oil by 5.7 per cent; gypsum by 8.6 per cent; and iron ore by 31.1 per cent. In contrast, salt and coal exports decreased by 19.5 and 6.3 per cent, respectively.

In 2002, there were two main flow corridors: the Canadian Atlantic to the U.S. Atlantic route; and the Canadian Great Lakes to the U.S. Great Lakes route. The Atlantic route accounted for 40.8 million tonnes, or 56 per cent of total loadings to the United States, while the Great Lakes route accounted for 13.1 million tonnes, or 18 per cent of total loadings. Combined, these routes accounted for 74 per cent of Canada's commodities traffic volumes shipped to the United States using marine transport services.

In 2002, imports of U.S. marine shipments to Canada decreased by 9.7 per cent from 45.9 million tonnes in 2001 to 41.4 million tonnes. Seven commodities accounted for more than 87 per cent of this volume: coal (19 million tonnes); iron ore (5.4 million tonnes); basic chemicals (3.3 million tonnes); stone, limestone, sand and gravel (3.1 million tonnes); fuel oil (2.2 million tonnes); other petroleum products (2.2 million tonnes); and other agriculture products (one million tonnes).

As with exports, there were significant differences in the volumes of commodities imported from the United States between 2001 and 2002. Imports of iron ore and basic chemicals were up 19.4 and 10.8 per cent, respectively, while shipments of coal and fuel oils dropped by 14.3 and 16.3 per cent, respectively.

More than 77 per cent of the total volume of all marine imports from the United States originated at ports on the Great Lakes. Ports along the U.S. Atlantic and the Gulf of Mexico accounted for 15.5 per cent, while U.S. Pacific ports made up the remaining seven per cent.

Table 8-23 shows traffic flows from Canadian to U.S. ports in 2002, while Table 8-24 shows traffic flows from U.S. to Canadian ports.

TABLE 8-23: CANADA'S MARINE TRAFFIC TO THE UNITED STATES, 2002

	(Millions of tonnes)			
Canadian Region of Origin	U.S. Region of Destination			Total
	U.S. Atlantic	U.S. Great Lakes	U.S. Pacific	
Atlantic	40.8	0.0	0.2	41.0
St. Lawrence	5.2	3.3	0.0	8.5
Great Lakes	0.1	13.1	0.0	13.2
Pacific	0.6	0.0	9.6	10.2
Total	46.6	16.4	9.8	72.9

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

⁷ Including in-transit and transshipment cargo.

TABLE 8-24: CANADA'S MARINE TRAFFIC FROM THE UNITED STATES, 2002

	(Millions of tonnes)			
Canadian Region of Destination	U.S. Region of Origin			Total
	U.S. Atlantic	U.S. Great Lakes	U.S. Pacific	
Atlantic	2.8	0.1	0.0	3.0
St. Lawrence	3.4	2.7	0.1	6.2
Great Lakes	0.1	29.4	0.0	29.5
Pacific	0.1	0.0	2.7	2.8
Total	6.4	32.1	2.9	41.4

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

OVERSEAS FREIGHT TRAFFIC

In 2002, Canada's marine trade with overseas countries (excluding the United States) totalled 168 million tonnes. This was a six per cent decrease from 2001. Exports made up more of this volume than imports. Approximately 59 per cent of overseas exports were loaded at West Coast ports, while 88 per cent of overseas imports were unloaded at East Coast ports.

Table 8-25 shows Canada's maritime overseas trade in 2001 and 2002. Addendum Table A8-17 shows overseas trade since 1986.

TABLE 8-25: CANADA'S MARITIME OVERSEAS TRADE, 2001 – 2002

	(Millions of tonnes)		
	Loaded	Unloaded	Total
2001	112.7	66.2	178.9
2002	101.4	67.0	168.4

Source: Statistics Canada, Cat. 54-205; Transport Canada

In 2002, Canadian ports loaded 101.4 million tonnes of cargo to be shipped to non-U.S. countries, 10 per cent less than in 2001. The major commodities shipped from Canada included: coal (24 million tonnes); iron ore (18.6 million tonnes); containerized freight (13.4 million tonnes); wheat (10.3 million tonnes); sulphur (5.2 million tonnes); woodpulp (5.1 million tonnes); and potash (4.7 million tonnes). Slightly more than 13 per cent of this traffic was containerized.

Coal, wheat, wood pulp and sulphur shipments showed significant decline in 2002. Coal shipments decreased 13.8 per cent, wheat by 32.1 per cent and woodpulp by six per cent. Iron ore shipments, however, increased by six per cent.

Also in 2002, three fifths of Canada's total marine exports to overseas destinations were loaded at ports in western Canada. The ports along the St. Lawrence Seaway handled most of the loading for ports in Eastern Canada. At 71 per cent, Western ports dominated the tonnage shipped on the Asia and Oceania trade routes, while the Eastern ports handled 60 per cent of the tonnage shipped to Europe.

In terms of imports, Canadian ports unloaded 67.0 million tonnes of marine shipments from overseas origins in 2002, 1.2 per cent more than in 2001. Imports of crude petroleum⁸ totalled 28 million tonnes, accounting for 42 per cent of all marine traffic unloaded from offshore origins. Other major commodities unloaded included: containerized freight (11.9 million tonnes); other metallic ores and concentrates (3.9 million tonnes); basic chemicals (3.7 million tonnes); gasoline (3.7 million tonnes); iron and steel (3.1 million tonnes); and coal (2.8 million tonnes). About 18 per cent of this inbound traffic was containerized.

In addition, more than 87 per cent of overseas shipments were unloaded at ports in Eastern Canada. Overseas cargo originated mainly from Europe, the Middle East and Africa.

Table 8-26 shows Canada's marine traffic to overseas destinations, while Table 8-27 shows Canada's marine traffic from overseas markets in 2002.

TABLE 8-26: CANADA'S MARINE TRAFFIC TO OVERSEAS, 2002

Foreign Region of Destination	(Millions of tonnes)		
	Canadian Region of Origin		
	Eastern Ports	Western Ports	Total
Asia and Oceania	5.6	42.8	48.4
Europe	24.6	7.2	31.8
South and Central America	5.5	7.5	13.0
Middle East and Africa	5.5	2.7	8.2
Total	41.2	60.2	101.4

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

TABLE 8-27: CANADA'S MARINE TRAFFIC FROM OVERSEAS, 2002

Foreign Region of Origin	(Millions of tonnes)		
	Canadian Region of Destination		
	Eastern Ports	Western Ports	Total
Europe	26.9	0.2	27.1
Middle East and Africa	15.7	0.1	15.8
South and Central America	12.9	1.0	13.9
Asia and Oceania	3.4	6.8	10.2
Total	58.9	8.1	67.0

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

⁸ Including transshipments of North Sea Crude petroleum.

MARINE TRADE

According to international trade data, the value of Canadian international marine trade in 2002 was \$103.2 billion (excluding shipments via U.S. ports). This represents a 4.2 per cent increase from 2001. Marine imports were valued at \$57.1 billion, while marine exports were valued at \$46.1 billion. The value of imports increased by 5.9 per cent, notably with increased cargoes inbound from Asia (China, Japan, South Korea and Taiwan). The value of exports also increased, by 2.2 per cent, mainly to United States, Germany and the Netherlands.

Table 8-28 shows the value of the marine share of Canada's international trade in 2002.

TABLE 8-28: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2002

	(Billions of Canadian dollars)		
	<i>Marine</i>	<i>All Modes</i>	<i>Marine (per cent)</i>
Transborder			
Exports ¹	11.35	345.37	3.3
Imports	3.34	218.33	1.5
Total U.S.	14.68	563.70	2.6
Other countries			
Exports ¹	34.75	51.01	68.1
Imports	53.76	130.39	41.2
Total	88.51	181.40	48.8

Note: Totals may not add up due to rounding.

¹ Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

Marine traffic with the United States was valued at \$14.7 billion in 2002, driven by exports of \$11.4 billion. This value, however, represented only 2.6 per cent of total Canada-U.S. trade. The bulk of the traffic was handled by surface transport modes, such as trucking and rail.

In 2002, Canada's marine trade with overseas countries (excluding the United States) was valued at \$88.5 billion. Of this total, exports accounted for an estimated at \$34.7 billion while imports accounted for \$53.8 billion. In terms of value, marine transport accounted for 49 per cent of all overseas trade and was the dominant mode for shipping overseas freight.

Asia, Western Europe and the United States are the major areas of exports/imports. The principal commodities exported to foreign countries (including the United States) were: forest products (\$9.1 billion); gasoline/fuel oils (\$5.8 billion); and grains (\$4.4 billion). Imports consisted of: textiles, leathers and end products (\$8.5 billion); crude petroleum (\$8.4 billion); automobile vehicles (\$8.2 billion); machinery (\$4.9 billion); and other food products (\$3.0 billion). For the United States and overseas countries and principal commodities exported/imported by value, see Addendum Table A8-18.

Despite difficult market conditions in 2003, low-cost no-frills air carriers continued to grow and to generate profits.

MAJOR EVENTS IN 2003

AIR CANADA

Air Canada filed for court protection under the *Companies' Creditors Arrangement Act* (CCAA) on April 1, 2003. To facilitate its restructuring, the airline has proposed cutting its annual operating costs by at least \$2.1 billion, which include annual labour cost savings of \$1.1 billion. On November 8, 2003, Air Canada's Board of Directors selected Trinity Time Investments, controlled by Victor T.K. Li, to provide the company with \$650 million in new equity to support the airline's emergence from CCAA protection. This investment provides Mr. Li with a 31 per cent share of the common equity and 49 per cent of the voting shares in the airline. Air Canada has stated that it intends to emerge from CCAA protection by April 30, 2004.

SEVERE ACUTE RESPIRATORY SYNDROME

In March 2003, the World Health Organization (WHO) issued a worldwide advisory for countries with confirmed cases of severe acute respiratory syndrome (SARS), including Canada (Toronto). Health Canada was the lead for implementing several measures to contain the disease. Six Canadian airports were targetted for special health screening: Toronto, Vancouver, Ottawa, Calgary, Dorval and Mirabel. Transport Canada supported Health Canada's initiatives at Toronto and Vancouver airports for inbound and outbound screening, and played a significant role at the other four airports. Transport Canada established the necessary infrastructure, selected non-medical personnel and defined operational procedures for Calgary, Dorval, Mirabel and Ottawa airports. These staff and operational procedures ensured that each passenger

and crew member had filled a medical self-assessment questionnaire (yellow card) before seeing a Customs Officer. Summary data was collected and reported daily to Health Canada's headquarters. Most of Transport Canada's direct involvement with the response to SARS took place during May and June. In July, Transport Canada gradually withdrew from the project, handing over its responsibilities to Health Canada and Canada Customs and Revenue Agency (CCRA) officials.

AIR TRAVEL COMPLAINTS COMMISSIONER

Ms. Liette Lacroix Kenniff was the Air Travel Complaints Commissioner throughout 2003. She was re-appointed by the Minister of Transport in September 2003 for an additional one-year term. The Commissioner released two reports in 2003 covering the calendar year 2002. The first report, tabled in Parliament on January 30, covered the first six months of 2002 and cited a decrease in the number of complaints received by the Commissioner's office over the previous six-month period. The Commissioner's second report, covering the final six months of 2002, was tabled in Parliament on June 5. It noted that although the number of complaints continued to decline, the nature of the public's concerns were more complex, as the airline industry, faced with declining revenues and rising costs, appeared less willing to offer settlements that passengers considered acceptable. The Commissioner and her staff frequently had to enter into difficult negotiations with carriers to reach solutions acceptable to consumers.

CANADA AIRPORTS ACT

The proposed *Canada Airports Act* (CAA), introduced as Bill C-27 in the House of Commons on March 20, 2003, had not reached the Committee stage when Parliament adjourned in December 2003.

The objectives behind the legislation were to strengthen governance, transparency and accountability at Canada's major airports, primarily those operated by airport authorities. It included a formal declaration of a national airports policy. It covered the roles and responsibilities of the federal government, those of the airport authorities and other airports, the obligations respecting transparency and accountability, and the mechanisms for users' input. It also addressed competition issues related to access to facilities and slots, as well as charging principles and a process for setting airport fees, ancillary activities and enforcement mechanisms.

AIRPORT RENT POLICY REVIEW

In response to the demands of airports and aviation communities and to the issues raised by the Auditor General in October 2000, a review of the rent policy for 22 airports leased to 21 Airport Authorities in the National Airports System (NAS) was launched in 2001. The review is designed to assess whether the federal government's airport rent policy balances the interests of all stakeholders, including the air industry and Canadian taxpayers. It has been conducted at the same time as, but independently of, the development of the proposed *Canada Airports Act*.

During 2002 and 2003, Transport Canada, with the assistance of independent financial experts, embarked on a number of key studies examining the value of leased NAS airports, the impact on the air sector and the travelling public, and the fairness and equity of the current rent model. These studies are expected to be completed in 2004 and will be subject to government due diligence and the evaluation of results. Results of the review will be used as key inputs to a government decision.

FEDERAL SPACE REVIEW AT NATIONAL AIRPORT SYSTEM AIRPORTS

A review of the space occupied by federal departments and agencies at key NAS airports across the country was launched in 2003. Numerous federal entities require space at airports to carry out their mandates, including the inspection agencies (e.g. Canada Customs and Revenue Agency, Health Canada, Citizenship and Immigration

Canada, Canadian Food Inspection Agency, Canadian Airport Transport Security Authority, etc.) and Transport Canada. In accordance with federal legislation, space and facilities are generally provided to these government departments and agencies at no cost.

Since September 11, 2001, there has been a need to increase the federal presence at airports to fulfill the safety and security roles of the federal government related to the processing of passengers and cargo. The additional demands on free space have created new cost challenges for the Airport Authorities, and this led to the decision to review existing federal government policies and determine whether some adjustments are required. The Federal Space Review at NAS airports is expected to be completed in fiscal year 2004/05 with the objective of developing a new policy for approval by the government.

REGIONAL AND SMALL AIRPORTS STUDY

Further to the decision taken by the federal government to continue its divestiture initiative in early 2002, it was agreed that Transport Canada would undertake a financial analysis of small and regional airports to understand the impact of federal government divestitures on their respective communities. During fiscal year 2002/03, Transport Canada began a study to analyze the financial viability of regional and small airports that it transferred since the introduction of the federal government's National Airports Policy (NAP) in 1994. The NAP provided a framework that defined the federal government's role in the commercialization of airports.

AIR TRAVELLERS SECURITY CHARGE

To fund the costs of the enhanced air travel security system introduced in response to the September 11, 2001, terrorist attacks in the United States, the Air Travellers Security Charge was introduced and has been effective since April 1, 2002. It was initially set at \$12 per enplanement, up to a maximum of \$24 per ticket, for air travel within Canada, \$12 for transborder air travel to the continental United States, and \$24 for other international air travel. With respect to domestic travel, the charge applies to flights between the 89 airports at which the Canadian Air Transport Security Authority (CATSA) delivers the enhanced air travel security system. As of March 1, 2003, the charge for air travel within Canada was reduced from \$12 to \$7 for one-way travel and from \$24 to \$14 for round-trip travel, a reduction of more than 40 per cent.

COMPUTER RESERVATION SYSTEMS

Until the late 1990s, Canadian carriers were very reliant on computer reservation systems to distribute their inventory of air services to travel agents for sale to the general public. To ensure adequate competition, computer reservation systems have been a regulated sector since 1995 under the *Aeronautics Act*. The emergence of the Internet as a competitive alternative distribution channel compelled an extensive review of those regulations by Transport Canada. This resulted in the publication of proposed amendments to those regulations in part I of the *Canada Gazette* on October 25, 2003. Transport Canada began reviewing formal responses to the proposed amendments by industry stakeholders and the general public, and a formal public meeting was held in February 2004 to solicit further comments before making a final determination on amendments.

ELECTRONIC COLLECTION OF AIR TRANSPORTATION STATISTICS

The national Electronic Collection of Air Transportation Statistics (ECATS) initiative began in April 2003 with the following objectives: to collect electronically all operational air transportation statistics from the approximately 170 domestic, U.S. and other international air carriers serving airports in Canada; to improve the timeliness of air transportation statistics to both government and industry; to reduce the reporting burden and associated costs to stakeholders; and to have Transport Canada receive air transportation data as close to "real time" as possible. Implementation of this phase of the ECATS initiative is to be completed by the end of calendar year 2004. At that time, plans to expand the ECATS initiative to further include electronic collection of air cargo, general aviation and carrier financial information will be initiated.

THIRD-PARTY WAR AND TERRORISM LIABILITIES INDEMNIFICATION

On September 22, 2001, after international insurers withdrew previous levels of coverage, the federal government announced that it would provide short-term indemnification for third-party war and terrorism liabilities for providers of essential aviation services in Canada. This indemnity continues to be in force, for renewable periods of 90 days. While there has been some recovery in the insurance markets, previous levels of coverage are still not available at reasonable prices. Other countries provide support to their carriers in this area.

PROVINCIAL AND TERRITORIAL INITIATIVES

On January 7, 2003, a three-year agreement between Air Canada and the Government of Quebec came into effect whereby the airline provides a large number of seats at reduced fares to non-government users on 15 regional routes and continues service on these routes in return for the Quebec government increasing purchases of air services from Air Canada.

In June 2003, the Nunavut Territorial Government released the Nunavut Air Services System Implementation Options Report. As a basis for future discussions with airlines, the report's objectives are improved air service, a modernized air fleet and expansion of airport development. The report concludes that contractual incentives might be the best option to achieve improvements in air services. Since the Government of Nunavut, along with the federal government, purchases between 60 and 80 per cent of air travel, this option suggests that the governments would use their purchasing power to negotiate improvements. In the short term, the recommended approach is for the government of Nunavut to set up multiple airline contracts on selected routes and markets.

The Fredericton Chamber of Commerce successfully attracted Delta Air Lines to offer twice-daily flights between Fredericton and Boston by setting up an airline travel bank. Through this travel bank, businesses commit to using the new service. Demand is developed even before the service starts and the new route represents less of a risk for the airline. Delta Connection (Atlantic Coast Airlines) started its new year-round non-stop jet service on August 15, 2003.

PRECLEARANCE ACT

Following the designation of preclearance areas at Canadian airports (Calgary, Edmonton, Montreal, Ottawa, Toronto, Vancouver and Winnipeg), Canada and the United States brought into force a new Agreement on Air Transport Preclearance on May 2, 2003. This represented the last step in a process that gives U.S. border inspectors the right to administer, within the confines of preclearance areas at selected Canadian airports, certain U.S. laws related to customs, immigration, public health, food inspection and plant and animal health. Pursuant to the *Preclearance Act*, the Minister of Transport, in consultation with the Minister of Foreign Affairs, is responsible for the designation of preclearance areas.

From Canada's perspective, the entry into force of the preclearance agreement formalizes in-transit preclearance at Vancouver and allows for its introduction at Calgary, Montreal and Toronto. In-transit preclearance allows international passengers destined for the U.S. via a Canadian airport (i.e. arriving international intransit passengers who have not cleared Canadian customs and immigration) to go directly into U.S. preclearance. This will allow Canadian airports to become more effective international gateways to the United States.

MULTIPLE DESIGNATION POLICY

The Minister announced several new designations as part of the new multiple designation policy that was announced in 2002. The new policy allows all carriers to apply to operate scheduled international air services to any air market. As a result of this policy, the following designations were made in 2003: Air Canada (Cuba), Air Transat (Dominican Republic and Mexico), HMY Airways (Mexico), Skyservice (the Dominican Republic and the United Kingdom) and Zoom Airline (the Dominican Republic, Mexico and the United Kingdom).

BILATERAL AGREEMENTS

Canada had a total of 74 international air agreements or arrangements in force at the end of 2003. The federal government participated in 11 rounds of negotiations or consultations with seven countries during the year. This included the successful conclusion of a first-time air agreement with Vietnam, which allows for extensive code-sharing rights for airlines. Negotiations took place with France in an effort to provide more flexibility to airlines operating in one of Canada's largest international markets. Negotiations with Russia are ongoing with the view of permanently securing the right of Canadian airlines to fly over Russian territory. A new arrangement with Luxembourg was put in place, allowing Cargolux to operate all-cargo flights to Calgary. Temporary air service arrangements for Israel and Singapore were extended to allow existing air services to continue. Consultations with Chile on doing-business provisions were successfully concluded, allowing that agreement to come into force.

INFRASTRUCTURE

Canada's air transportation infrastructure is composed of airports and the Air Navigation System (ANS). With respect to airports, Transport Canada's role has shifted from owner and operator to landlord and regulator. Transport Canada continues to be responsible for the regulation and safety of the ANS, but it has transferred ownership to NAV CANADA. These changes were designed to promote safety, efficiency, affordability, service integration, innovation and commercialization.

AIRPORTS

Canada has approximately 1,700 aerodromes, which are facilities registered with Transport Canada as aircraft take-off and landing sites. The aerodromes are divided into three categories: water bases for floatplanes, heliports for helicopters, and land airports for fixed-wing aircraft.

Most of Canada's commercial air activity takes place at certified land airports. Because of their level of activity or location, these sites are required to meet Transport Canada's airport certification standards.

At the close of 2003, the *Canada Flight Supplement* and the *Canada Water Aerodrome Supplement* listed 1,746 certified or regulated sites. Table 9-1 shows the number of airports for fixed-wing aircraft in Canada.

TABLE 9-1: CANADIAN LAND AIRPORTS FOR FIXED-WING AIRCRAFT, 2003

	<i>Certified</i>	<i>Registered</i>	<i>Military</i>	<i>Total</i>
Heliports	277	83	0	360
Water	8	290	0	298
Land	356	729	3	1,088
Total	641	1,102	3	1,746

Source: *Canada Flight Supplement*, December 25, 2003; *Water Aerodrome Supplement*, March 20, 2003

Since the introduction of the National Airports Policy in 1994, the federal government has been reducing its role in the management, operation and ownership of airports. The transfer process has been largely completed and the current state of transfer is posted monthly on the Internet at www.tc.gc.ca/programs/airports/status/menu.htm.

AIRPORT AUTHORITY REVENUES AND EXPENSES

Airport authorities operate the federally owned National Airports System airports under long-term leases, with the exception of the three territorial NAS airports, which are owned and operated by territorial governments, and Kelowna Airport, which is operated by the City of Kelowna. The airport authorities are incorporated as not-for-profit, non-share capital corporations, with independent and publicly accountable boards of directors. Prince George Airport was the final NAS airport to be divested and it was transferred on March 31, 2003. Airport authority financial statements for the year ending in 2002 are shown in Table A9-1 of the Addendum.

AIRPORTS CAPITAL ASSISTANCE PROGRAM

Since April 1995, Transport Canada has provided the Airport Capital Assistance Program (ACAP) to help eligible non-NAS airports finance capital projects related to safety, asset protection and operating cost reduction. Eligibility requirements for the airports include receiving a minimum of 1,000 passengers annually, meeting airport certification requirements, and not being owned by the federal government. In 2003, the program approved 43 projects at 31 airports for an estimated total funding of \$27.6 million. Addendum Table A9-2 shows the allocation of funds by province since the inception of the program, while Addendum Table A9-3 lists ACAP projects approved in 2003.

AIRPORT IMPROVEMENT FEES

A number of airport authorities collect Airport Improvement Fees (AIFs). AIFs now represent approximately 20 per cent of total airport revenues on average, and this percentage continues to grow. Currently, most AIFs vary from \$10 to \$15 per passenger. The majority of AIFs are collected through the airlines' ticket systems, but some are collected directly by the airport. Addendum Table A9-4 lists the current AIFs for the 26 NAS airports.

FINANCIAL PERFORMANCE OF NAS AIRPORTS

The terrorist attacks of September 11, 2001, and the slowdown in the global economy contributed to a five per cent decline in overall passenger traffic at the NAS airports in 2002. As a result, the total net income at the nine largest airports decreased from \$144 million in 2001 to \$121 million in 2002. The net income decreased mainly due to rising interest charges and amortization associated with airport capital expansion projects, which offset revenue growth. During this period, the net income at Toronto, Calgary, and Ottawa airports declined but increased at the Winnipeg airport, which had minimal debt financing. The net income at Montreal airport increased due to higher AIF revenue and lower operating costs.

Despite the decline in passenger traffic, the total revenue of the nine largest NAS airports increased by six per cent in 2002. While revenues at Vancouver and Victoria airports declined, revenues at Montreal, Calgary, Winnipeg, Edmonton, Ottawa and Halifax airports increased marginally. During the same period, the Greater Toronto Airports Authority experienced revenue growth of 12 per cent, primarily as a result of the introduction of AIFs.

Most of the medium NAS airports (more than 500,000 passengers annually) experienced declines in both revenues and net income in 2002. Of all Canadian airports, small NAS airports (fewer than 500,000 passengers annually) experienced the most severe traffic decline in 2002, with similar declines in revenues and net income. Charlottetown and Gander airports were particularly hard hit and experienced double-digit declines in passenger traffic.

The total capital expenditures at the nine largest airports was \$1.6 billion in 2002, as the major capital projects at Toronto, Montreal, Calgary, Ottawa and Victoria airports continued as planned. At the Toronto airport, a \$4.4 billion capital expansion project (Airport Development Program) is well under way. The new terminal building, which is to replace the existing Terminals 1 and 2, is scheduled to open in 2004. At Ottawa, a \$310 million capital project, which included construction of a new passenger terminal building, was completed in October 2003. The total capital expenditures at the medium NAS airports were \$21 million, as Saskatoon and St. John's airports continued their capital projects. In addition, many of the small NAS airports such as Fredericton, Moncton, London and Saint John continued their major capital expenditures. The total capital expenditures at the small NAS airports in 2002 were \$47 million.

AIR NAVIGATION SYSTEM

NAV CANADA is a not-for-profit, private corporation that owns and operates Canada's civil air navigation system. NAV CANADA provides air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. NAV CANADA has the right to set and collect customer service charges from aircraft owners and operators. Most customer service charges are applicable to commercial air carriers. As a result, the financial instability of individual air carriers may have short-term effects on NAV CANADA's cash flows. For more information on NAV CANADA, visit the corporation's Web site at www.navcanada.ca.

To help address its financial difficulties in 2003, NAV CANADA signed a cross-border lease/lease-back transaction with a U.S. investor for a portion of its assets. The transaction for equipment with a value of approximately \$270 million yielded a benefit of \$25 million to NAV CANADA.

INDUSTRY STRUCTURE

AIRLINES

AIR CANADA AND SUBSIDIARIES

Air Canada, together with its subsidiaries, remained Canada's largest airline in 2003. It earned revenues of \$8.2 billion between October 1, 2002, and September 30, 2003, while providing service to 62 points in Canada, 49 in the United States and 43 international destinations in 30 countries. Air Canada is a founding member of Star Alliance, a consortium of 15 airlines that serve 680 destinations in 127 countries. It has three wholly owned subsidiaries: Jazz operates less busy domestic and transborder routes, particularly to small communities; Zip provides frequent low-fare service on domestic routes; and Air Canada Vacations offers tour packages to popular destinations. Jetz, an internal division of Air Canada, offers premium charter service to sport teams and businesses. In addition, four independent local service operators (Air Creebec, Air Georgian, Air Labrador and Central Mountain Air) offer regional services on behalf of Air Canada.

LOW-COST CARRIERS

Domestically, and on some transborder routes, Canada has seen the entry and growth of a number of low-cost, no-frills carriers in recent years. In fact, these carriers have been the source of most traffic growth, a trend that can be seen in Canada and around the world. Calgary-based WestJet is now Canada's second-largest airline, having earned \$860 million in revenues in 2003. It serves 24 cities with 44 aircraft. Montreal-based Jetsgo expanded its fleet from three to twelve aircraft during 2003 and serves 11 Canadian cities. CanJet, based in Halifax, operated six aircraft to seven Canadian cities. In addition to their domestic services, all three low-cost airlines offer seasonal services to international tourist destinations.

CHARTER AIR SERVICES

Canada has a number of charter airlines that provide both domestic and international service. They focus on point-to-point transportation to leisure destinations, often as part of a vacation package. Their markets are typically served with low frequencies (sometimes only one or two flights a week) and are highly seasonal, with summer service mainly to Europe or within Canada and winter service primarily to the south. The major players in this segment of the industry are Air Transat and Skyservice Airlines. Montreal-based Air Transat flies 15 aircraft to 74 destinations in 25 countries and earned \$787 million in revenues in 2002. Skyservice, based in Mississauga, has a fleet of 21 aircraft and flies to 66 destinations. Two other airlines are involved in the charter market: Vancouver-based HMY Airways with two aircraft and Ottawa-based Zoom Airlines with one aircraft.

FOREIGN AIRLINES

Twelve U.S. airlines operate to 18 Canadian cities, while 36 foreign airlines provide service between Canada (primarily from Montreal, Toronto and Vancouver) and 47 international destinations in 34 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Table A9-5 in the Addendum.

NORTHERN AIRLINES

A number of airlines provide year-round scheduled and charter service across northern Canada with combination passenger and cargo aircraft. The major participants are Air North, Calm Air, Canadian North (incorporated as Air Norterra) and First Air. Services by these airlines are complemented by other airlines such as Aklak Air, Kenn Borek Air and North-Wright Airways. They offer flights to the most remote communities in the Arctic. Most airlines in the region also provide Medevac services and other transport under contract to the federal and territorial governments.

LOCAL SERVICE AIRLINES

Smaller local service airlines provide service across Canada, particularly to remote communities, in niche markets (e.g. Bearskin Airlines' service between points in Ontario, and floatplane and helicopter services in British Columbia). They also operate alternative services in some regional markets (e.g. Hawkair in British Columbia and Provincial Airlines in eastern Canada). Addendum Table A9-6 lists the largest of these airlines and their major areas of operation. Like the airlines serving the Arctic, many of the local service airlines provide emergency transport under contract to the federal and provincial governments.

ALL-CARGO AIRLINES

A number of all-cargo airlines provide jet service on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers. They include AllCanada Express and Cargojet Canada, both based in Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton.

BUSINESS AND COMMERCIAL AVIATION

The actual number of airlines operating in Canada is much larger than the previous section implies. At the end of 2003, the Canadian Transportation Agency reported that more than 2,300 licences were active. Table A9-7 in the Addendum shows the number of licences held as of December 31, 2003. The number of personnel licences issued by Transport Canada confirms the importance of the commercial sector. The number of commercial licences held in 2003 is roughly equal to the number of air transport licences. Addendum Table A9-8 summarizes the number of personnel licences issued, while Table A9-9 gives a provincial breakdown of the licences.

Business aviation continued to grow in 2003 due to fractional ownership, which allows individuals or businesses that would not otherwise be permitted to own aircraft on their own to share aircraft use by purchasing units of flight time. This type of aircraft ownership is regulated in Canada as a commercial air service.

Specialty air services use aircraft but do not involve the movement of passengers or cargo between two points. They include such diverse services as flight training, parachute jumping, glider towing, aerial forest fire management and firefighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and heli-logging, as well as hovercraft services. While some large companies are represented in this sector, many of the companies are very small operators serving local markets.

GENERAL AVIATION

General aviation represents about half of all aircraft movements at controlled airports in Canada, although much of the activity in 2003 was at non-controlled airports.

Recreational flying in its various forms represented the bulk of general aviation activity, accounting for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada in 2003. It is also the largest segment of Canadian civil aviation activity. While most recreational aircraft are standard planes, this segment also includes all other types of recreational aircraft such as ultra-lights, gliders and balloons, among others. Table A9-10 in the Addendum gives further detail on the types of aircraft operated.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

In 2002, the total revenue generated in the air transport industry dropped for the second year in a row, by 3.5 per cent. Decreases were observed in all passenger and freight markets, except on overseas markets. In domestic markets, the drop in activity¹ (-9 per cent) can be explained in part by higher prices (+5.8 per cent). In transborder markets, prices fell by more than 10 per cent, but this was not sufficient to sustain a growth in demand. Overseas markets were more resilient, as demand grew despite higher prices. Although revenue and traffic declined in both 2001 and 2002, the industry has averaged annual growth in revenues and output of 6.3 and 4.4 per cent, respectively, since 1996.

1 The measure of activity takes into account both the number of passengers and the distance they travelled.

While the industry restructuring led to strong productivity gains in 2001, overall productivity stayed about the same in 2002. Contrary to 2001, factor prices declined by 1.1 per cent in 2002, with major declines (-13 per cent) in fuel prices. As a result, unit costs fell by 1.1 per cent in 2002. Over the 1996 – 2002 period, airline productivity gains averaged 0.4 per cent a year. Over the same period, the rail and freight industries recorded a combined annual productivity growth of 2.1 per cent. Factor prices, which are mostly out of the industries' control, increased by 2.8 per cent, more than twice as fast as general inflation. As a result, unit costs increased by 2.4 per cent a year over this period.

The financial difficulties of Air Canada led it to seek court protection in 2003. Westjet reported increased revenues (+26 per cent) and operating profit (+38 per cent). Air Transat also improved its financial performance. Other Level II carriers had combined revenues exceeding the billion-dollar mark in 2002.

FREIGHT TRANSPORTATION

Air cargo is carried in the belly-hold of passenger aircraft, in passenger/cargo combination or in all-cargo aircraft. Canada's domestic air cargo market is deregulated; as such, there are no restrictions on routing, capacity or price. Transborder and international air cargo services are covered by bilateral air agreements, other international agreements and national policies. Some all-cargo airlines do provide charter services outside of Canada on behalf of foreign-based airlines but have little presence on their own in international markets. However, a significant amount of cargo is carried in the belly-hold of passenger aircraft.

There are several operators in Canada providing dedicated all-cargo service, with a total of 50 aircraft. In addition, Air Canada provides air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for six per cent of its revenues in the first three quarters of 2003. In the North, Canadian North and First Air also provide air cargo services, along with numerous other smaller operators.

Table A9-11 in the Addendum shows the volume of goods carried by Canadian air carriers from 1993 to 2002. Overall, the number of tonnes carried remained substantially the same in 2002 as in 2001. The strongest growth was registered in international markets, which increased by five per cent in 2002. This was counterbalanced by an 11 per cent decrease in cargo carried by air to the United States. Addendum Table A9-12 shows the operating revenues generated by goods carried by Canadian air carriers. Between 2001 and 2002, domestic revenues dropped by five per cent, while international and transborder revenues (combined) decreased by three per cent.

Table A9-13 in the Addendum compares the value of goods shipped by air versus other modes. From 1997 to 2000, air cargo trade between Canada and the United States rose steadily, but since then has decreased each year, declining by \$14.3 billion, or 30 per cent over the past three years. This loss was higher in the import than the export sector. Air cargo's share of total Canada–U.S. trade was 6.2 per cent in 2003, down from a high of 8.1 per cent in 2000.

As Addendum Table A9-13 shows, Canada's air trade with countries other than the United States remained essentially the same in 2003 as in 2002 (a 0.6 per cent decrease). This can be explained by the surge in exports (up 13 per cent) that was balanced by a decrease in imports (down seven per cent). Trade remained import-oriented, making up about twice the value of exported goods. The air mode's share of the total value of trade with other countries dropped from a high of 23.4 per cent in 2000 to 20.9 per cent in 2003.

Of goods shipped by air, 84 per cent originated in or were destined for eastern provinces. As expected, the United States, followed by countries in Western Europe and Asia, were the main markets for trade with Canada using air transport. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum. Table A9-15 in the Addendum breaks down the commodity group for goods shipped by air. Not surprisingly, high-value items such as machinery and electrical equipment, aircraft and transport equipment, and other manufactured goods make up the majority of the goods shipped by air.

PASSENGER TRANSPORTATION

TRAFFIC

With the outbreak of SARS in Toronto, the year 2003 proved to be challenging for air traffic. At the height of the outbreak in May, overall air traffic had decreased by 11 per cent from levels the previous May. The impact was most severe in the transborder and international sectors, where traffic decreased by 17 and 19 per cent, respectively. Toronto and Vancouver were most affected by the crisis, although all the major airports in Canada reported reduced traffic levels. Traffic has gradually recovered during the summer and fall, with most airports reporting modest year-over-year growth by year-end.

The impact of SARS was that traffic in 2003 decreased by two per cent from 2002 to 54 million passengers. Air traffic in the transborder sector was the most affected, with a four per cent decrease from 2002 while the international sector experienced a two per cent decrease. Air traffic in the domestic sector remained essentially unchanged in 2003. However, traffic in all three sectors was significantly below its peak in 2000, when 60 million passengers were carried. Table 9-2 shows the continued decline in traffic since 2000.

TABLE 9-2: AIR PASSENGER TRAFFIC, 1999 – 2003

	(Thousands of passengers)			
	<i>Domestic</i>	<i>Transborder</i>	<i>International</i>	<i>Total</i>
Air Passengers				
1999	26,645	19,644	12,271	58,560
2000	26,001	20,824	13,177	60,002
2001	25,726	19,506	13,166	58,398
2002	24,549	18,265	12,561	55,375
2003	24,570	17,476	12,270	54,316
Annual Change				
(Per cent)				
1999 – 2000	(2.4)	6.0	7.4	2.5
2000 – 2001	(1.1)	(6.3)	(0.1)	(2.7)
2001 – 2002	(4.6)	(6.4)	(4.6)	(5.2)
2002 – 2003	0.1	(4.3)	(2.3)	(1.9)

Notes: Data estimated for 2002 and 2003.

Passenger traffic is based on enplaned and deplaned passengers but results for the domestic sector have been divided by two to avoid the double-counting of passengers.

Source: Statistics Canada

For a summary of 2002 traffic at the 26 NAS airports, by sector and region, see Table A9-16 in the Addendum.

SERVICES

Low-fare airlines continued to expand in 2003. (See Addendum Table A9-17 for a list of new services.) WestJet added service to four new points in the east, Gander, Montreal, St. John's and Windsor. In addition to the new routes, WestJet continued to add flights over existing routes, with an emphasis on increasing its presence on transcontinental routes. Jetsgo added Calgary, Edmonton, Ottawa and St. John's to its network. Moreover, Jetsgo converted seasonal services in Charlottetown and Sydney to a year-round service. However, Jetsgo ceased service to Timmins in April, and WestJet withdrew service to Sault Ste. Marie and Sudbury in September. Charter airlines reduced domestic service as a result of the increased competition although Air Transat, HMY Airways and Skyservice Airlines remained active in the major markets, especially during the summer peak season.

Air Canada's regional service commitments, made to the Minister of Transport when it acquired Canadian Airlines in December 1999, expired on January 4, 2003. At that time, Air Canada Jazz withdrew its service to St-Leonard in New Brunswick, Stephenville in Newfoundland and Labrador, and Yarmouth in Nova Scotia, as well as service linking Newfoundland to Labrador. St-Leonard and Yarmouth remain without air service, although Sou'West Air temporarily offered air service to Yarmouth. Air Labrador and Provincial Airlines continued to serve Stephenville and Labrador. Air Canada also removed its code from flights serving High Level, Peace River and Rainbow Lake in Alberta, although service continued to be provided by Central Mountain Air.

One of the most notable changes at Air Canada was the repositioning of its Tango brand from a separate airline to a low-fare product offered on all domestic flights. As a result, all flights with aircraft dedicated to Tango ended in September. Air Canada subsidiary Zip continued its expansion, adding six cities to its network in 2003. However, the additions made at Zip came at the expense of existing Air Canada flights. Zip now serves 10 destinations across Canada.

Low-cost airlines were also active in the transborder market in 2003, as CanJet, Jetsgo and HMY Airways added several new routes to the United States. Most of the new routes involve winter-only flights to Florida, but a few others like Jetsgo's new service to Newark are to be served year-round. U.S.-based airlines added year-round service to several airports, including Edmonton, Fredericton, Kamloops and Montreal. Several other new seasonal routes were added during the summer months. Air Canada, on the other hand, was forced to suspend

service on several routes earlier in the summer. Some of the suspended services were later reinstated, however, with more to resume early in 2004. For more details on both new and discontinued transborder services, see Table A9-18 in the Addendum.

As Addendum Table A9-19 shows, Air Canada made several changes to its international flights by reinstating service to Argentina and India and adding new routes to Chile and Costa Rica. Air Canada made extensive additions to its services to the Caribbean and Mexico; most of the new routes are being served on weekends during the winter only and are operated with aircraft normally idle during those periods. Air Canada suspended Toronto–Tokyo and Vancouver–Nagoya services at the height of the SARS outbreak but plans to reinstate these services in 2004.

Air Transat and WestJet announced an agreement that will allow tour operators affiliated with Air Transat to charter a number of WestJet crews and aircraft for flights to southern destinations. The agreement is to last two years and involves flights from several Canadian cities. Foreign airlines made a few changes during 2003. In Toronto, SATA International restored service to Portugal, and Aerosvit now provides air services between Canada and the Ukraine. Lufthansa returned to the Montreal market by introducing seasonal service to Munich.

COMPETITION

Low-cost competition, high fuel prices, the outbreak of SARS and the aftermath of the September 11, 2001, terrorist attacks in the United States continued to be felt throughout the airline industry in 2003. Worldwide, full-network air carriers struggled to adjust to the changing market and to maintain their economic viability.

Domestically, there continued to be considerable movement in capacity shares. Air Canada's domestic market share dropped from 67 per cent in December 2002 to 60 per cent in December 2003. WestJet maintained close to a 50 per cent market share in western Canada and made substantial gains in the other regions of the country, increasing its capacity share to 25 per cent on a national basis. Jetsgo increased its share from two per cent in 2002 to six per cent in 2003, while CanJet's figures remained unchanged at two per cent. Carriers such as Canadian North and First Air maintained their strength in the North, while SkyService and Air Transat reduced their domestic presence in favour of international charter routes.

For more detailed information on domestic capacity share by airline and by region in December 2003, see tables A9-20 and A9-21 in the Addendum, and for the summarized results of the top 25 domestic markets, see Table A9-22.

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Minister of Transport



Ministre des Transports

Ottawa, Canada K1A 0N5

MAY 16 2005

Her Excellency the Right Honourable Adrienne Clarkson, C.C., C.M.M., C.O.M., C.D.
Governor General of Canada
Rideau Hall
1 Sussex Drive
Ottawa ON K1A 0A1

Excellency:

It is with great pleasure that I submit to your attention the ninth Annual Report on the state of transportation in Canada. This report is produced in conformity with the statutory requirements spelled out in Section 52 of the *Canada Transportation Act*.

Canadians' well being depends on the ability of our transportation system to span distances, to allow dynamic trade relationships with other nations, and to sustain competition in the global marketplace. A safe and secure transportation system also plays an important role in attracting investment and supporting economic growth. Canada's prosperity is closely linked to its trade relationships with other countries, especially with the United States. The expansion of the European Union and the emerging economies of China, India and Brazil represent an increasing challenge, forcing our transportation system to rapidly evolve and adjust to economic globalization and integration.

Through the analysis of the most recent information available, this report examines the role of the Canadian transportation system in the production, distribution and consumption of material goods and services, as well as the evolution of transportation demand and its response to changing needs and market conditions.

This report on the state of the Canadian transportation system provides relevant information that informs policy and program decision-making.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Jean-C. Lapierre".

Hon. Jean-C. Lapierre, P.C., M.P.

Canada

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TRANSPORTATION AND THE ECONOMY

- In 2004, the Canadian economy fared better than in 2003, growing by 2.8 per cent in real terms.
- Exports, consumer expenditures and business investment all contributed to this economic growth.
- In the second half of the year, the high Canadian dollar took its toll on exports, spurred imports and slowed economic growth.
- The rise of the dollar, by an average of 7.7 per cent in 2004 against the U.S. dollar, reflected a decline of the value of the U.S. dollar and an increase in commodity prices.
- The value of the Canadian dollar dropped from US\$0.788 in January to US\$0.714 in May before rising to a 12-year high of US\$0.851 in November.
- The Consumer Price Index (CPI) increased by 1.9 per cent in 2004. Energy and transportation prices rose by 6.8 and 2.4 per cent, respectively.
- In real terms, personal disposable income per capita increased by 1.5 per cent.
- Canada's population grew by 0.9 per cent, while employment increased by 1.8 per cent.
- All provinces and territories, except Newfoundland and Labrador, showed economic growth. Western Canada and Ontario fared better than Quebec and eastern Canada.
- Canada's trade increased by 6.5 per cent with the United States, 13.4 per cent with the European Union and 38.8 per cent with China (4.7 per cent with Japan).
- Trucking accounted for 62 per cent of trade with the United States, rail 18 per cent, pipeline 11 per cent, air six per cent and marine three per cent.
- Almost 76 per cent of the trade (in value terms) between Canada and the United States carried by trucks took place at six border crossing points: Windsor/Ambassador Bridge, Fort Erie, Sarnia and Lansdowne in Ontario, Lacolle in Quebec, and Pacific Highway in British Columbia.
- In 2004, Canada's trade with countries other than the United States totalled \$209 billion. Imports were more significant than exports and, in terms of both value and volume, marine and air transportation were the two dominant modes for this trade.
- Of Canada's top 20 trade partners in 2004, five countries had a two-digit average annual growth rate in their trade with Canada over the 1994 to 2004 period.
- In 2004, China ranked second (\$24.1 billion) and fourth (\$6.6 billion) respectively in terms of Canada's total imports and exports.
- Tourism expenditures, including expenditures on transportation, were up in 2004. Tourism recovered from being adversely affected in 2003 by several factors including the SARS (Severe Acute Respiratory Syndrome) outbreak. Air transportation expenditures rose 9.4 per cent. Both interprovincial and intraprovincial domestic travel were up in 2004.
- Road energy use increased by 3.2 per cent in 2003 — the only mode that used more energy than the year before. Pipelines used 15.2 per cent less energy, while marine and rail used 6.9 and 0.3 per cent less, respectively.
- Productivity in transportation grew marginally, by 0.3 per cent, in 2003 while freight transportation prices increased by 1.8 per cent.
- In 2004, commercial transportation services accounted for 4.1 per cent of Canada's value-added gross domestic product (GDP). In 2003, in relation to provincial/territorial GDP, the importance of transportation was most significant in Manitoba, British Columbia and New Brunswick. Ontario and Quebec contributed 57.8 per cent of

commercial transportation activity nationally under GDP, while Alberta and British Columbia contributed 28.4 per cent.

- Investment in transportation accounted for 2.6 per cent of Canada's GDP in 2004.
- Overall transportation-related final demand accounted for 12.5 per cent.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2003/04, all levels of government combined spent \$19.7 billion on transportation expenditures net of transfers, \$0.2 billion more than in 2002/03. Federal and provincial government expenditures increased while local government spending declined marginally.
- In 2003/04, all government levels collected \$15.3 billion in permit and licence fees and fuel taxes from transport users, three per cent more than the previous year.
- In 2003/04, direct federal transport expenses are expected to be \$2 billion, up 8.2 per cent over 2002/03. The federal government continued to spend more on safety, security and policy activities in 2003/04.
- In 2004/05, total direct federal subsidies, grants and contributions are expected to grow to \$856 million, 6.0 per cent more than in 2003/04.
- Provincial, territorial and local governments spent \$17.0 billion on transportation in 2003/04, roughly 0.6 per cent more than in 2002/03. About 78 per cent of this went to highways and roads.
- In 2003/04, governments spent \$13.6 billion on roads and \$2.9 billion on public transit services. Federal and provincial governments spent \$2.2 billion on air, marine and rail transportation.

TRANSPORTATION SAFETY AND SECURITY

- A recent public opinion survey indicated that in the case of all four transportation modes, over 90 per cent of Canadians give transportation in Canada either a *moderately* or a *very safe and secure* rating.
- In 2004, Transport Canada maintained its regulatory and safety oversight responsibilities, implemented a number of improvement initiatives and continued the implementation of Safety Management Systems in the air, rail and marine industries. In 2004, compared to 2003, there was a decrease in the number of aviation and marine transportation accidents. There were also

fewer air and road transportation fatalities, however, there was an increase in both marine and rail transportation fatalities.

- Rail-related accidents increased by 9.3 per cent in 2004, while rail-related fatalities jumped from 77 in 2003 to 99 in 2004. Two-thirds of these fatalities were due to a 52 per cent increase in the number of trespasser accidents. Crossing accidents at both public automated crossings and public passive crossings fell.
- In 2003 (latest data), there was a two per cent decrease in road casualty collisions, a 5.6 per cent decrease in road-related fatalities and a 2.5 per cent decrease in road-related injuries.
- There were 431 Canadian vessel accidents in 2004, down from 485 in 2003. As in previous years, the majority of marine accidents were shipping accidents. A total of 27 lives were reported lost in 2004, slightly more than the previous five-year average of 23. A record low of confirmed vessel losses (17) was reported. Fishing vessels accounted for 54 per cent of the total reported marine accidents, while commercial vessels accounted for 35 per cent.
- There were 244 Canadian-registered aircraft involved in a reported 241 accidents in 2004; of these, 104 involved commercially operated aircraft, while the remaining 140 accidents were associated with recreational aviation. None of the three accidents involving Canadian airlines and none of the four accidents involving commuter aircraft resulted in fatalities.
- In a context of approximately 30 million shipments of dangerous goods a year, a total of 379 accidents in the transportation of dangerous goods were reported in 2004, slightly more than the 356 of 2003. Also in 2004, 11 fatalities and 35 injuries resulted from accidents involving dangerous goods; of these, 12 injuries and one fatality were directly associated to the dangerous goods themselves.
- Transportation security remains one of Transport Canada's key priorities. In 2004, Transport Canada continued to take action to further strengthen transportation security in all modes. This has contributed significantly to a continued increase in the public confidence ratings of the security of the transportation system.
 - Important aviation security initiatives in 2004 included: legislative and regulatory enhancements; programs such as the Cabin Security Enhancement Contribution Program and the Aviation Transportation Security Clearance program; awareness campaigns, industry training initiatives, and international initiatives.

- Transport Canada made significant progress toward the enhancement of marine security. The Marine Security Regulations came into force on July 1, 2004, putting the International Ship and Port Facility Security (ISPS) Code into effect in Canada.
- Efforts related to rail security were stepped up following the March 2004 train bombings in Madrid, Spain. The security of containerized cargo moving intermodally and internationally has become a major transportation security concern internationally. In 2004, a Canada-U.S. Working Group worked on a joint Cargo Security Project.
- In 2004, Transport Canada continued to enhance its ability to prepare for and respond to emergencies and crises.
- Transport Canada continued to implement the Chemical, Biological, Radiological, and Nuclear Response (CBRN) Project for the transportation of dangerous goods.

TRANSPORTATION AND THE ENVIRONMENT

- In 2002, 26 per cent of greenhouse gas (GHG) emissions in Canada came from the transportation sector: 72 per cent from road transportation, seven per cent from aviation, three per cent from rail and three per cent from marine. Off-road and pipelines accounted for the remaining 15 per cent of total transportation-related GHG emissions.
- Between 1990 and 2002, on-road GHG emissions and activity levels from the passenger and freight sectors increased by roughly 12 per cent, with activity levels and GHG emissions tracking each other.
- Over the same period:
 - on-road freight GHG emission levels increased by 53 per cent, compared with a 103 per cent increase in road freight transport activity;
 - aviation GHG emissions grew by 18 per cent;
 - rail emissions dropped by about 16 per cent, despite a 28 per cent traffic growth; and
 - marine emissions increased by three per cent.
- The transportation sector accounts for 60 per cent of total emissions of nitrogen oxides (NO_x), 26 per cent of volatile organic compounds (VOC), seven per cent of fine particulate matter (PM) and four per cent of sulphur oxides (SO_x). Since 1990, overall emissions of all these pollutants has declined.

- A number of new federal transportation-related initiatives were introduced in 2004:
 - The One-Tonne Challenge, a campaign aimed at providing Canadians with information and tools to reduce their own GHG emissions by one tonne, including emissions related to travelling
 - The announcement of the Hydrogen Highway, an initiative to stimulate the development and commercialization of hydrogen and fuel cell technologies
 - The Urban Transportation Showcase Program, an initiative to demonstrate and evaluate the impacts of integrated strategies for reducing GHG emissions, air pollution, congestion, urban form and land use and increased active transportation
 - Federal and provincial announcements of investments in public transit; the New Deal for Cities and Communities announced in the Speech from the Throne; and a national urban transit bus retrofit program
 - The Advanced Technology Vehicles Program, aimed at reducing GHG emissions in the transportation system
 - The Freight Efficiency and Technology Initiative, aimed at reducing the growth of GHG emissions from freight transportation
 - Proposed amendments to the Sulphur in Diesel Fuel Regulations to introduce limits in off-road, rail and marine diesel fuels aligned with the levels adopted by the U.S. Environmental Protection Agency in June 2004
 - Proposed Off-Road Compression-Ignition Engine Emission Regulations to introduce emission standards for diesel engines starting in 2006

RAIL TRANSPORTATION

- The rail system network was relatively stable in 2004. The only track discontinuances were made by Canadian Pacific Railways (129 kilometres) and Southern Manitoba Railway (about 100 kilometres).
- Approximately 2,300 kilometres of track were transferred as a result of the completed takeover by CN of BC Rail. The only other transfer was between Burlington Northern Santa Fe and the newly formed Kettle Falls International Railway, which involved nine kilometres of track.

- Of total rail revenues in 2003, 89 per cent were generated by CN, Canadian Pacific Railway (CPR) and VIA Rail.
- Class I railways consumed 1.8 billion litres of fuel in 2003, the same as in 2002 but less than in 1990, when they used 1.9 billion litres.
- CN reported a four per cent decrease in revenue tonne-kilometres in 2003, while CPR's output increased by almost 7.5 per cent.
- In 2004, rail car loadings increased five per cent to reach 273 million tonnes. In western Canada, volumes moved by rail increased nine per cent, while in eastern Canada, volumes stayed at 133 million tonnes moved.
- Shipments of coal and coke increased by four per cent in 2004, chemicals increased 11 per cent to 16 million tonnes, iron ore decreased by 15.4 per cent (due a strike by iron ore workers), and forest products totalled 45.3 million tonnes. Grain shipments totalled 27.5 million tonnes, still below the volumes reported in the 1990s, while rail shipments of fertilizer materials increased by 11 per cent, and automotive products fell slightly to 5.1 million tonnes.
- Export rail tonnage increased eight per cent in 2004 to reach 76.5 million tonnes; forest products and chemicals were the largest contributors to this increase. The largest share of rail export volume to the United States originated in Ontario (25 per cent).
- In 2004, import rail tonnage increased slightly to 21.7 million tonnes. Imports of chemicals and metals increased. Automotive imports fell slightly to 5.1 million tonnes, a level still above the 4.1 million tonnes average for the period 1996 – 2004.
- Fort Frances and Sarnia, both in Ontario, accounted for 19.5 and 16.8 per cent of rail-exported trade, respectively. Forest products and chemicals were the major commodities exported at these border crossings. In terms of value, the leading border crossing points were Sarnia and Windsor, with automotive products topping the commodities exported through these locations.
- Class I railways moved 83 million tonnes of goods to and from Canadian ports in 2003, up from 82 million in 2002.
- British Columbia and Alberta experienced declines in rail–marine exports in 2003, Saskatchewan enjoyed increased exports. Coal and grain exports both declined, but exports of other agricultural and food products experienced the largest increase. Rail–marine imports increased slightly in 2003, and Quebec and Ontario remained the two major destinations for such traffic.

- Intercity rail passenger traffic decreased slightly in 2003. VIA Rail reported 4.8 per cent fewer passengers carried.
- The productivity of rail freight carriers increased by 2.4 per cent in 2003, while VIA Rail's productivity declined by 8.7 per cent.

ROAD TRANSPORTATION

- In 2004, a consensus was reached to limit commercial vehicle drivers to 13 hours of driving and 14 hours on duty per 24-hour period.
- Three changes to the weights and dimensions standards of trucks and buses were introduced in 2004: a change to the overall box length on a truck, a limit on the placement of the kingpin for the second trailer in a "B-train double-trailer" truck configuration, and the shift of recreational vehicles from the "straight truck" to the "intercity bus" category.
- In 2004, British Columbia's *Passenger Transportation Act* came into force.
- Heavy trucks crossing the Canada–U.S. border increased almost two per cent in 2004.
- TransForce Income Fund topped the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.
- Trucking firms carrying general freight accounted for 62.5 per cent of total revenues of large for-hire trucking firms in 2003, while the share of specialized trucking firms increased marginally.
- According to the 2003 Canadian Vehicle Survey, there are 17.5 million (in scope) light vehicles (i.e. gross weight less than 4,500 kilograms) in Canada, including 11.1 million passenger cars and station wagons, 2.2 million vehicles listed as vans, 2.7 million pickup trucks and 1.5 million sport utility vehicles (SUVs).
- Vans, SUVs and light trucks accounted for 39.9 per cent of vehicle-kilometres in 2003. They were driven on average more than cars and station wagons (17,900 versus 15,400 kilometres) and had a marginally higher vehicle occupancy ratio (1.68 persons).
- There was an average of 550 vehicles per 1,000 people in Canada in 2003.
- According to the Canadian Vehicle Survey, there were 600,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 322,000 were medium-sized, weighing between 4,500 and 15,000 kilograms. Almost 279,000 were Class 8 (heavy) trucks, weighing more than 15,000 kilograms.

- Ontario (37 per cent), Alberta (24 per cent) and Quebec (13 per cent) accounted for 74 per cent of the heavy truck fleet.
- Heavy trucks accounted for 18 billion vehicle-kilometres in 2003, compared with fewer than 6.2 billion for medium-sized trucks.
- Empty haul movements accounted for 13 per cent of heavy truck vehicle-kilometres in 2003, compared with about five per cent for medium-sized trucks.
- In 2003, domestic and transborder for-hire truck traffic by Canadian firms generated revenues of \$8.8 billion and \$8.0 billion, respectively, with six groups of commodities accounting for 82 per cent of these revenues: manufactured products, food products, forest products, metal and steel products, automobile/transport products and plastic/chemical products.
- Ontario dominated with 36 per cent of intraprovincial trucking traffic, 34 per cent of interprovincial trucking traffic and 45 per cent of total transborder traffic hauled by trucks. The heaviest traffic flows were between Ontario and the U.S. central region and Ontario and the U.S. southern region, with 19.3 billion and 12.7 billion tonne-kilometres, respectively.
- Total factor productivity in the trucking industry fell by 0.9 per cent in 2003.
- In 2003, the average operating ratio of the trucking industry reached 94.9 per cent, slightly higher than the average ratio of 94.4 recorded for the 1998 – 2002 period.
- The revenues of urban transit operators increased by 4.6 per cent in 2003. Overall, total transit output in Canada increased by 1.8 per cent, while prices rose by 2.8 per cent.
- In 2003, total factor productivity of transit systems increased by 0.5 per cent.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached \$299 million in 2003, up nine per cent from 2002 (\$275 million). Vancouver and Montreal accounted for roughly 57 per cent of this total.
- Tonnage handled at CPA ports increased from 215 million tonnes in 2002 to 227 million tonnes in 2003, with five CPAs accounting for 69 per cent of this volume (Vancouver, Saint John, Sept Îles, Montreal and Quebec City).
- In 2003, CPAs handled 51 per cent of total port traffic.
- Of all fishing harbours, 679 were managed by harbour authorities at the end of 2004, while 328 were small craft harbours managed by the Department of Fisheries and Oceans Canada.
- Three of the four pilotage authorities experienced a deficit in 2004, representing a loss exceeding \$5 million, compared with a positive balance in 2003.
- The Canadian Coast Guard's net expenditures in 2003/04 were \$467.1 million. In 2004, special attention was devoted to the creation of the Canadian Coast Guard as a Special Operating Agency (SOA).
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 43 million tonnes of traffic in the 2004 season, 5.3 per cent more than in 2003.
- Ferry services carried an estimated 38.8 million passengers and 16.3 million vehicles in 2004.
- In 2004, international cruise ship traffic decreased at Vancouver but increased at the four eastern Canada ports served by cruise ships, Montreal, Quebec City, Halifax and Saint John.
- Domestic cargo loaded and unloaded at Canadian ports increased to 136.4 million tonnes in 2003, up nine per cent from 2002.
- In 2003, 306.6 million tonnes of international cargo was handled at Canadian ports, compared with 282.7 million tonnes in 2002. Of this total, 123.5 million tonnes were related to Canada's marine traffic to and from the United States, up slightly from 2002, while 183.2 million tonnes had to do with Canada's marine trade with overseas countries (excluding the United States).
- The value of Canadian international marine trade in 2003 was \$107.4 billion, excluding shipments via U.S. ports, a 4.1 per cent increase from 2002.

MARINE TRANSPORTATION

- The National Marine and Industrial Council — an industry–government forum — was established to enhance dialogue between the federal government and the marine industry, to promote linkages and coordination on marine sector initiatives, and to provide cohesiveness across a core group of federal departments with mandates and interests in marine transportation.
- By 2004 year-end, 92 regional/local and remote ports and port facilities remained under Transport Canada's control.

AIR TRANSPORTATION

- Air Canada successfully emerged from bankruptcy protection in 2004.
- The federal government tasked the Standing Committee on Transport to conduct a review on whether Canada should further liberalize its approach to the economic regulation of air transportation.
- The Air Travel Complaints Commissioner issued two reports in 2004 covering the year 2003, citing a declining number of complaints.
- In 2004, studies were conducted on the value of the leased National Airport System airports, the impact of airport rent on the air sector and the travelling public, and the fairness and equity of the current rent model.
- A study of the financial viability of regional and small airports transferred since the introduction of the National Airports Policy was completed in 2004.
- Amendments to regulations of the computer reservation systems were published in the *Canada Gazette*, Part II leading to a more deregulated system that recognizes the importance of such changes as the emergence of the Internet as an information and sales tool.
- The Air Travellers Security Charge, introduced to fund the costs of the enhanced air travel security system put in place after the September 11, 2001, terrorist attacks, was reduced on April 1, 2004, to \$6 each way for air travel within Canada, \$10 for transborder travel and \$20 for other international travel. Effective March 1, 2005, it was further reduced to \$5 for one-way domestic travel, to \$8.50 for transborder travel and to \$17 for other international air travel.
- In 2004, the federal government continued to provide the short-term indemnification for third-party war and terrorism liabilities (renewable for periods of 90 days) it initiated after international insurers withdrew their previous level of coverage on September 22, 2001.
- The Canada–U.S. Air Transport Preclearance Agreement was extended in December 2004 to Halifax International Airport.
- Several new designations were announced by the Minister of Transport in 2004 as part of the new multiple designation policy allowing all carriers to operate scheduled international air services to any air market, regardless of size: Air Canada (extension of its temporary designation to Grenada), Air Transat (Toronto–Manzanillo (Mexico) and Winnipeg–Puerto Vallarta), Zoom Airlines (Ottawa–Puerto Vallarta) and Canjet (Dominican Republic).
- Canada participated in seven rounds of negotiations with five countries in 2004 and held consultations with 14 other countries. An amended agreement was concluded with the Russian Federation, and an agreement expanding operating opportunities between Canada and Japan. Temporary arrangements were reached with the Republic of Columbia, Israel and Singapore as was an arrangement with Brazil. New tariff regimes were put in place with Barbados, St. Kitts, Saint Lucia and Trinidad and Tobago.
- In 2004, the Airports Capital Assistance Program funded 42 projects at 35 airports related to safety, asset protection and operating cost reduction.
- Despite the decline in passenger traffic in 2003 caused by the SARS outbreak, total revenues of the two busiest Canadian airports increased by 8.5 per cent.
- Air Canada, with its subsidiaries, remained Canada's largest airline in 2004, with \$7.6 billion in revenues between October 1, 2003, and September 30, 2004, and serving 21 points in Canada, 30 in the United States and 54 internationally. The Air Canada family of companies includes Jazz operating on less busy domestic and transborder routes; Air Canada Vacations offering tour packages, and Jetz offering premium charter services to sport teams and businesses. Three independent local service operators offered regional services on behalf of Air Canada: Air Georgian, Air Labrador and Central Mountain Air.
- Low-cost, no-frills carriers offering domestic and transborder services in 2004 included WestJet, CanJet and Jetso.
- Canadian leisure carriers providing international services to leisure destinations in 2004 included Air Transat, Skyservice Airlines, Harmony Airways and Zoom Airlines.
- Airlines providing year-round scheduled and charter services across northern Canada included First Air, Canadian North and Air North. Aklak Air, Kenn Borek Air and North-Wright Airways complement the other airlines by offering flights to the most remote communities in the Arctic.
- Twenty-three U.S. airlines served 18 Canadian cities, and 37 foreign airlines provided services from Canada to 51 international destinations in 31 countries.
- A number of all-cargo airlines provided jet service in 2003 on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers: All-Canada Express, Cargojet Canada, Kelowna Flightcraft and Morningstar Air Express.

- At the end of 2004, more than 2,360 airline licences were active, an indication of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2004, mainly as a result of fractional ownership.
- In 2003, the total revenues generated by the air transport industry dropped by 12 per cent, while productivity increased by 1.3 per cent in 2003.
- Canada's air trade with countries other than the United States increased significantly in 2004.
- The number of tonnes carried by Canadian air carriers decreased by 18 per cent in 2003.
- Air passenger traffic in 2004 was nearly equal to the 2000 peak level, with 60 million passengers. Transborder traffic grew by 10 per cent and other international by 18 per cent.

The state of transportation in Canada is presented in the 2004 Annual Report using the most current information available.

The *Canada Transportation Act* (1996) places a statutory responsibility on the Minister of Transport to table every year an annual report on the state of transportation in Canada. Section 52 of the Act defines the mandate and the nature of the responsibilities and requirements of the annual report:

"Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

- (a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;
- (b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expense;
- (c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and
- (d) any other transportation matters the Minister considers appropriate."

The 2004 annual report, an overview of transportation in Canada, is the ninth submitted by the Minister since the Act came into force. The most recent available data and information were used to produce the report. Therefore, it is not always 2004 data that are reported. The scope of the report is not restricted to federal transportation responsibilities. While urban and intermodal transportation matters receive limited coverage, the report offers nevertheless a broad comprehensive coverage of the country's transportation system.

As for recent previous years, an addendum to this report is posted on Transport Canada's Web site. The Addendum contains more detailed information on the subject matters covered in the overview. Since the 2002 Annual Report, the scope of the coverage of the report has been maintained through the use of the Addendum, despite a more concise review of the state of transportation in Canada. Readers interested in more detailed and/or time series information are invited again this year to consult the Addendum at www.tc.gc.ca. Individual references to the Addendum are found either in the text or in footnotes to the text or to tables and figures. Information contained in tables or used to produce figures in the 2003 report have been updated in the report itself or can be found in tables in the Addendum. In addition, all annual reports since 1996 are available on Transport Canada's Web site at www.tc.gc.ca.

Canada's economy is a complex system that involves the production, distribution and consumption of commodities — both material goods and services. The country's economic well-being depends on the ability to span distances using transportation services, on dynamic trade relationships with other nations, and on the ability to compete in a global marketplace. Canada's economy is one of the strongest and healthiest among leading industrial countries.

Transportation has an important role to play in enhancing the well-being of Canadians, by attracting the right investments and by creating conditions favourable to growth. Transportation opens markets to natural resources, agricultural products and manufactured goods, it supports service industries and mitigates the challenges presented by topography. Transportation links communities and reduces the effects of the distances that separate people. Canada's prosperity is closely linked to its relationships with other countries, particularly with the United States. The two countries share the longest undefended border in the world and exchange nearly \$1.8 billion in goods and services daily. A more global economy is rapidly developing with the expansion of the European Union and with emerging economies such as China, India and Brazil assuming increasingly important roles in trade. Transportation has to evolve with economic globalization and integration and adjust to the changes in both the domestic and global landscapes.

The needs of all sectors of the economy drive the demand for transportation services. To provide the proper context, this overview of the state of transportation begins with a review of the performance of the Canadian economy (Chapter 2). Detailed information related to employment, trade and tourism can be found in the Addendum along with detailed information on transportation energy consumption.

Chapter 3 addresses the Section 52 (b) requirement related to the statutory mandate for the annual report by presenting the most recent information on government transportation spending and revenues. Some of the government transportation spending is directed at specific transportation system infrastructure assets. The private sector expenditures on and investments in Canada's transportation system are not covered in this chapter. The focus on the public sector does not reflect all transportation expenditures and investments.

Chapter 4 reviews safety and security in the transportation system. A safe transportation system remains a fundamental priority for Canada. This chapter provides an up-to-date overview of the most recent accidents and incidents statistics by mode. Recent enhancements to security are also reviewed.

Chapter 5 covers transportation and the environment. A review of environmental trends in transportation is followed by a description of the initiatives of the different levels of government relating to transportation and the environment.

Chapters 6 to 9, using a modal approach, give the most recent information on transportation. For rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9), the coverage is structured as follows: special events in 2004, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation is regrouped in Chapter 7, with coverage of the same subject matters as found in the three modal chapters.

Most of the data used and presented in this report or in the Addendum is from sources external to Transport Canada. The onus for data validation rests with those sources. Proper care and attention to data quality and limitations was given during the production of this report, and footnotes are used where needed to flag issues and explain data limitations. Given the constraints of the statutory deadlines under which the report was produced, the responsibility for data accuracy rests with the sources used. This report does not attempt to circumvent data limitations by estimating, nor does it attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY

2

*Consumer expenditures and business investment
provided strength to the Canadian economy in 2004.*

CANADIAN ECONOMIC PERFORMANCE

The Canadian economy fared better in 2004 than in 2003, as real gross domestic product (GDP) at market prices grew 2.8 per cent. This was up from the 2.0 per cent increase of 2002, when it had been affected by the SARS outbreak, the mad cow scare and the increasing value of the Canadian dollar. In the first three quarters of 2004, the economy grew at about three per cent at annual rates. Consumer spending and business investment and exports for the first half of the year all provided strength. Beginning in the third quarter, however, the high dollar took its toll on exports but spurred imports. Overall growth in the economy fell in the fourth quarter to about half that of the first three quarters.

Consumer expenditures continued to provide strength to the economy in 2004, increasing 3.5 per cent in real terms. This reflected continued low interest rates and good employment growth. Retail sales were 5.0 per cent higher than in 2003, when they increased 3.8 per cent. New and used motor vehicle sales, while still high, fell 3.2 per cent, continuing the drop seen in 2003. New housing starts reached a seventeen-year high at 233,000 units. Investment in residential construction increased 8.4 per cent, almost a full percentage point above the 7.5 per cent increase in 2003. Investment in machinery and equipment rose strongly at 9.4 per cent, after increasing 4.5 per cent the previous year. Government spending on goods and services rose 2.5 per cent, while investment by government rose 1.9 per cent. The main weakness in the economy was the trade sector. While exports of goods and services increased 4.9 per cent, reversing the 2.4 per cent drop in 2003, imports also increased 8.2 per cent, compared with only 3.8 per cent in 2003.

Table 2-1 shows general economic indicators in Canada for 2004.

TABLE 2-1: GENERAL ECONOMIC INDICATORS, 2004

	2004	Percentage change 2003 – 2004	Annual percentage change 1998 – 2003
GDP at Basic Prices (millions of constant 1997 dollars)			
Total Economy	1,047,254	3.1	3.7
Goods	327,205	3.7	2.7
Agriculture	14,220	6.9	(0.8)
Forestry	6,874	5.8	2.9
Mining	38,645	3.1	1.7
Manufacturing	181,230	4.0	3.1
Construction	58,292	3.7	4.8
Services	720,049	2.8	4.1
Retail trade	60,006	4.0	4.9
Transportation	43,279	3.9	3.0
Merchandise Trade (millions of dollars)			
Exports	430,279	7.6	4.1
Imports	362,952	6.2	2.4
Income (dollars)			
Personal Disposable Income per capita	23,202	2.9	3.6
Canadian Dollar (U.S. cents per unit)			
	76.8	7.7	1.2
Employment (thousands)			
	15,950	1.8	2.2
Population (thousands)			
	31,946	0.9	1.0
Prices			
Total Economy (1997=100)	114.8	3.2	2.2
Consumer Price Index (1992=100)			
All Items	124.6	1.9	2.4
Transportation	144.8	2.4	3.3

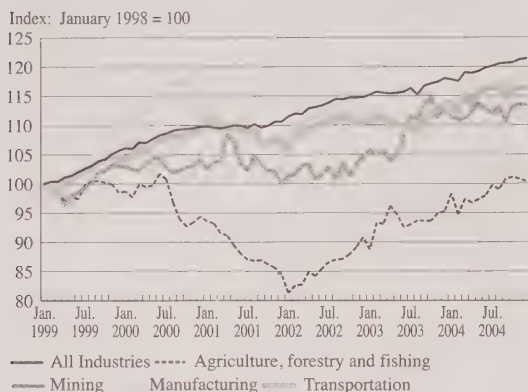
Source: Statistics Canada Cat. No. 11-010, 13-001, 15-001, 62-010; Bank of Canada

In 2004, GDP at basic prices by industry grew by 3.1 per cent in real terms. The output of goods-producing industries grew 3.7 per cent, while that of service industries grew 2.8 per cent. Resource-based industries all grew, as agriculture advanced 6.9 per cent, forestry and logging 5.8 per cent, and mining 3.1 per cent. The manufacturing industry recovered from very poor growth in 2003, expanding by 4.0 per cent in 2004, as transportation equipment, machinery and electronic

equipment all showed good gains. The construction industry grew 3.7 per cent and residential construction was very strong at 8.7 per cent growth. The transportation industry grew 3.9 per cent which was similar to the growth of the goods-producing industries.

Figure 2-1 shows the changes in real GDP since 1999.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 1999 – 2004



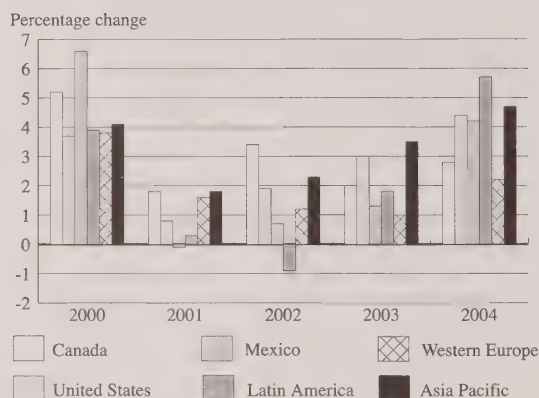
Source: Statistics Canada Cat. No. 15-001

The global economy expanded in 2004. World GDP rose 4.1 per cent, up from the 2.6 per cent increase in 2003. This improved rate of growth was due to the effect of expansionary monetary and fiscal policies in most of the major economies. However, a negative impact of this has been the rise in oil prices. While the depreciation of the U.S. dollar has stimulated the U.S. economy, it has been a drag on economies whose currencies have risen in value. The United States, which had real growth of 4.4 per cent in 2004, has been a major beneficiary of the expansionary policies and of its dollar's decline. All sectors of the U.S. economy showed strength, as consumer spending rose 3.8 per cent, business investment 10.6 per cent, and exports 8.5 per cent. Mexico's economy profited from the strong growth in the U.S. economy, growing 4.2 per cent in 2004, after increasing only 1.3 per cent in 2003. Latin America's economy grew 5.7 per cent, as the Brazilian economy moved out of recession and grew 5.4 per cent. Other countries such as Argentina and Venezuela also had strong growth. Western Europe was again the weakest of the regions with growth of just 2.2 per cent in 2004. However, this was more than double the 1.0 per cent growth in 2003. Germany, France and Italy all had stronger economies in 2004; however, the rise of the Euro dampened exports, and employment and consumer spending remained weak. The United Kingdom had the strongest of Western Europe's major economies, at

3.1 per cent growth. The Asia-Pacific region grew 4.7 per cent in 2004, up from 3.5 per cent in 2003. Japan had its highest growth rate since the mid-1990s, at 2.9 per cent, up from 1.3 per cent in 2003. This growth has been driven by the export sector, particularly to Chinese and U.S. markets. The Chinese economy, which grew 9.5 per cent in 2004, is having a major impact on the world economy, to which it provides low-cost consumer goods and looks abroad for the raw materials needed to fuel its rapid growth.

Figure 2-2 compares Canada's economy to that of other regions from 2000 to 2004.

FIGURE 2-2: REAL GDP: CANADA AND OTHER REGIONS, 2000 – 2004



Note: GDP at market prices.

Source: Global Insight, Statistics Canada Cat. 13-010, U.S. Bureau of Economic Analysis

In 2004, on a balance of payments basis, merchandise exports increased by 7.6 per cent and imports increased by 6.2 per cent. This resulted in a \$9.2 billion increase in the trade surplus. Exports to the United States rose 6.5 per cent, 1.8 per cent to Japan and 12.3 per cent to the European Union, while imports increased 4.2 per cent from the U.S. and 4.4 per cent from the European Union but fell 5.8 per cent from Japan.

The value of the Canadian dollar against the U.S. dollar fell in the first part of 2004 from US\$0.788 in January to its low for the year of US\$0.714 in May. It then rose steeply to reach a 12-year high of US\$0.851 in November before closing the year at US\$0.832. The average value of the Canadian dollar against the U.S. dollar increased 7.7 per cent in 2004 and follows a 12.1 per cent increase in 2003. This increase reflected a fall in the value of the U.S. dollar and an increase in commodity prices.

As measured by the GDP deflator, general prices in the total economy rose 3.2 per cent in 2004, equal to the increase in 2003. The average all-items consumer price index (CPI) rose only 1.7 per cent in 2004, compared with 2.8 per cent in 2003. Major contributors to this slowdown were automotive vehicle insurance premiums, which rose only 1.5 per cent in 2004 compared with a 22.1 per cent in 2003, and the price of natural gas, which fell 2.1 per cent in 2004 after increasing 30.1 per cent in 2003. Energy prices continued to rise, and consumers paid 6.8 per cent more on average for energy in 2004 after a 7.9 per cent increase in 2003. Transportation prices rose 2.4 per cent compared with 5.2 per cent in 2003.

Per capita disposable income rose 2.9 per cent in 2004, its fastest increase since 2001. In real terms it rose 1.5 per cent. These increases compare to a 2.1 per cent increase in nominal terms and a 0.5 per cent real increase in 2003.

Also in 2004, the average number of persons employed rose to 15.95 million, up 1.8 per cent and following a 2.2 per cent increase in 2003 over 2002. The mid-year population of Canada rose to 31.9 million, up 0.9 per cent from 2003.

PROVINCIAL ECONOMIC PERFORMANCE

In 2004, all provinces and territories, except Newfoundland and Labrador, showed some economic growth. Western Canada and Ontario, however, fared better (growth of more than three per cent) than Quebec and Eastern Canada (growth of less than three per cent). High commodity prices helped the West, while manufacturing activity and exports were important in Central Canada. The East had slower activity in the energy sector and in some areas of construction. Newfoundland and Labrador's economic output fell slightly in 2004, as mining was affected by a strike, and offshore oil production declined. Prince Edward Island growth was weak due to difficulties in agriculture and tourism. Nova Scotia was adversely affected by declining natural gas production, but positively affected by strong manufacturing growth. New Brunswick was the strongest of the Atlantic Provinces as manufacturing bounced back. Manufacturing and construction activity in Quebec and Ontario have been aided by exports to a strong U.S. economy, despite the strong dollar, and by consumer spending and business investment. Manitoba had good performance in all sectors other than agriculture in 2004, and its relatively large manufacturing sector is benefitting from export growth. High commodity prices

have meant strong growth in Saskatchewan and Alberta, with oil important in both provinces and potash important in Saskatchewan. Agriculture was affected by poor weather and by the continued closure of the U.S. border to live cattle. British Columbia had strong exports to both the United States and Asia; wood production and residential building contributed most to growth.

Table 2-2 shows provincial economic performance in 2004/03.

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2004/03
(GDP at basic prices in constant 1997 dollars)

	Percentage Change 2004/03	Percentage Change 1998/03
Newfoundland and Labrador	(0.9)	7.5
Prince Edward Island	1.6	2.7
Nova Scotia	1.3	3.5
New Brunswick	2.5	3.3
Quebec	2.2	3.7
Ontario	2.8	4.1
Manitoba	2.3	2.2
Saskatchewan	3.3	0.9
Alberta	4.0	3.1
British Columbia	4.0	3.0
Territories	4.1	8.6

Source: Statistics Canada, Conference Board of Canada

INTERNATIONAL TRADE¹ AND TRADE FLOWS

By the end of 2004, Canada's trade surplus with the rest of the world had increased by over 25 per cent returning to its high 2000 level of \$57 billion, as both exports and imports increased.

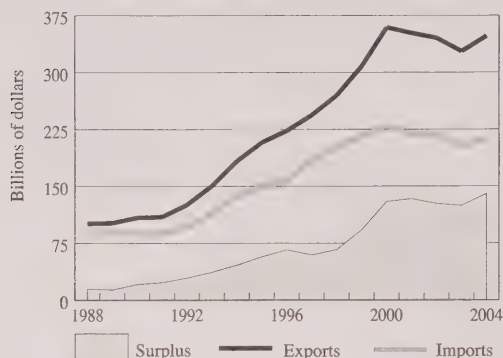
TRADE WITH THE U.S.

The United States was by far Canada's most important trading partner in 2004, accounting for 73 per cent (in value) of Canada's total trade with the world (69 per cent in 1988). Canada's exports to the United States represented 85 per cent of Canada's total exports to the world. This share has been stable at 85-86 per cent since 1998. In contrast, Canada's imports from the United States fluctuated between 64 and 68 per cent of total imports from the world during the period 1988 – 1998 before reaching a low of 59 per cent in 2004. As a result, Canada's annual surplus with the United States has enjoyed an annual average growth of 12 per cent over the last 10 years.

¹ Customs-based trade statistics are being used in this report as detailed information on commodity, modes of transport and geographic region is presented on a Customs basis only.

Figure 2-3 tracks the value of trade with the United States from 1988 to 2004.

FIGURE 2-3: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1988 – 2004



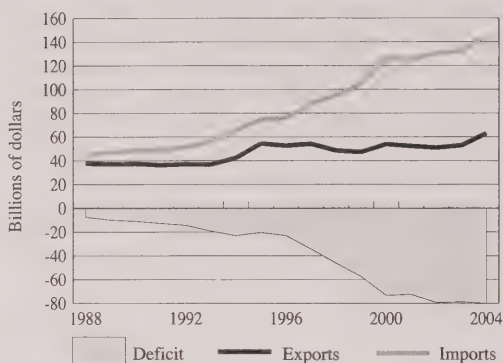
Note: Customs-based trade data; preliminary data for 2004.

Source: Transport Canada, adapted from Statistics Canada, International Trade Database

After peaking at \$589 billion in 2000, Canada's trade with the United States totalled \$556 billion in 2004, an increase of five per cent over 2003. In terms of value, trucks carried 62 per cent of this trade, followed by rail (18 per cent), pipeline (11 per cent), air (six per cent) and marine (three per cent). Trucking was the dominant mode for both exports (53 per cent) and imports (78 per cent). By volume, pipelines ranked first, at 33 per cent (mainly in exports), followed by trucks (31 per cent), rail (18 per cent) and marine (17 per cent).

Between Canada and the United States, the most important trade flows involved Ontario and the U.S. Central Region,² totalling \$171 billion. This included \$86 billion from and to Michigan alone. Four of the top six Canada-U.S. trade flows involved Ontario. Almost 76 per cent (in value) of the Canada-U.S. trade carried by trucks was concentrated at six border crossing points: Windsor/Ambassador Bridge, Fort Erie, Sarnia and Lansdowne in Ontario, Lacolle in Quebec and Pacific Highway in British Columbia.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND OTHER COUNTRIES, 1988 – 2004



Note: Customs-based trade data; preliminary data for 2004.

Source: Transport Canada, adapted from Statistics Canada, International Trade Database

TRADE WITH OTHER COUNTRIES

Canada's trade with other countries totalled \$209 billion in 2004, driven by imports valued at \$145 billion. This trade has registered deficits since 1988, as imports from other countries generally exceeded Canada's exports to these countries. As Figure 2-4 shows, trade deficits have grown at an annual average rate of 14 per cent in the last 10 years.

In terms of value and volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with overseas countries. In 2004, six trade flows accounted for almost 75 per cent of Canada's total trade with countries other than the United States. Four of these were two-way flows between eastern provinces and west Europe (\$18 billion in exports, \$43 billion in imports) and between western provinces and Asian countries (\$16 billion in exports, \$18 billion in imports). The other two-way flows were import-oriented, moving to eastern provinces from Asian countries (\$40 billion) and Latin American countries (\$20 billion), mainly Mexico.

For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

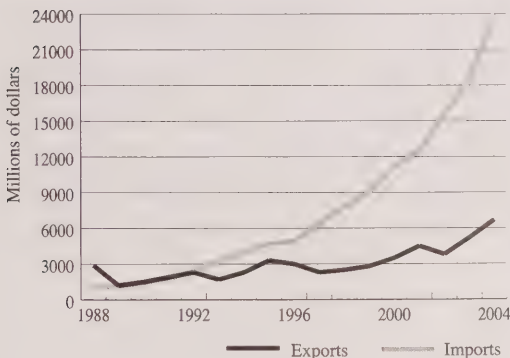
² The US Central Region includes states bordering the Great Lakes area (i.e., Michigan, Ohio, Indiana, Illinois, Wisconsin) and the states of Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

NEW TRENDS AND PORT CONGESTION

From 1994 to 2004, the average growth rate for imports from non-U.S. countries reached 8.3 per cent — twice the rate of exports from Canada to these countries at 4.1 per cent. Out of Canada's top 20 trade partners in 2004, five countries had a two-digit average annual growth rate over the 1994 – 2004 period: People's Republic of China (20 per cent for imports, 11 per cent for exports); Mexico (12 per cent for imports, 11 per cent for exports); India (13 per cent for imports, 12 per cent for exports); Algeria (28 per cent for imports); and Norway (11 per cent for imports). Addendum Table A2-10 shows a list of Canada's top 25 trade partners in 2004 with appropriate ranking and growth rate.

China's (People's Republic) increased trade with Canada and the U.S. has been a new driving force in North American business, putting more strain on transportation infrastructure and modal logistics. In the last five years (1999 – 2004), China's exports and imports to and from Canada recorded an average annual growth of 22 per cent and 20 per cent, respectively. In 2004, China ranked 2nd (\$24.1 billion) and 4th (\$6.6 billion), respectively, in Canada's total imports and exports from and to the world. As a result, China has surpassed Japan and Mexico as a source of imports for both Canada and the U.S. Figure 2-5 illustrates the evolution of Canada's trade with China since 1988.

FIGURE 2-5: VALUE OF GOODS TRADED BETWEEN CANADA AND CHINA (PEOPLE'S REPUBLIC), 1988 – 2004



Note: Customs-based trade data; preliminary data for 2004.

Source: Transport Canada, adapted from Statistics Canada, International Trade Database

Between 1994 and 2004, marine exports to China almost quadrupled to reach \$5.8 billion, while air exports were eight times their 1994 level totalling \$687 million. On the import side, the pattern is similar. Marine imports quadrupled and air imports are 10 times their 1994 level. In addition to China, Mexico, India, Brazil and other Asian countries showed strong growth in a very short span of time.

In recent years, the impact of increased trade on transportation infrastructure and the modes has been tremendous. It has translated into more containerization, which has resulted in container congestion at major west coast ports, such as Vancouver, Los Angeles, Long Beach. Already, after only two months (January and February) of activity in 2005, the Port of Vancouver reported an 11 per cent increase in containers handled (imports in TEU) when compared to the 2004 record period. The pressure on transportation infrastructure and modes may also be measured in terms of heavier loads, shortage of intermodal railroad cars, road and border congestion, environment (pollution) and security. Longer waiting periods put a strain on the 'just-in-time' concept as post-September, 2001 security measures and increased trade logistics must interrelate more closely.

Measures to support the transport infrastructure are already in place. These measures include, expansion plans by major ports and carriers to keep up with the growth of container traffic, and customs measures to facilitate cargo movements (FAST system). The efficient flow of traffic across the border with the U.S. is essential to maintain the Canadian route as a key corridor for container traffic between Asia and U.S. markets. The Port of Vancouver, in some ways, is the leader in North America's gateways for Asia-Pacific trade.

AREAS OF IMPORTANCE TO TRANSPORTATION

TRAVEL AND TOURISM

International travel to and from Canada rose 3.2 per cent in 2004, reversing the 7.1 per cent drop of 2003. The increase was larger in travel with countries other than the United States. Reflecting the stronger Canadian dollar, trips by Canadians rose 6.5 per cent overall; trips to the United States rose 5.6 per cent while trips to other countries rose 13.1 per cent. Travel by residents of other countries to Canada saw an overall increase of 24.3 per cent, while trips by Americans to Canada fell

2.5 per cent. Transborder air travel growth was strong. Trips by Americans by plane to Canada rose 10.6 per cent and trips by Canadians to the United States by plane increased 9.8 per cent.

Table 2-3 shows international travel in 2004.

TABLE 2-3: INTERNATIONAL TRAVEL, 2004

	2004	Percentage change from 2003
Trips by Canadians	41,786,293	6.5
To United States	36,047,297	5.6
Automobile	29,649,404	4.6
Same-day	21,520,394	3.1
Overnight	8,129,010	8.5
Airplane	4,640,006	9.8
To all other countries	5,738,996	13.1
Trips by non-residents	38,844,666	(0.1)
by U.S. residents	34,626,114	(2.5)
Automobile	27,254,823	(5.2)
Same-day	17,845,999	(9.1)
Overnight	9,408,824	3.2
Airplane	4,328,939	10.6
Trips by all other non-residents	4,218,552	24.3
Total international trips	80,630,959	3.2

Source: Statistics Canada cat. No. 66-001

Domestic travel³ fell 8.3 per cent in 2003 to 172.2 million trips, down from a six-year high of 187.9 million in 2002. Both same-day and overnight travel fell by 7.3 per cent and 9.4 per cent, respectively. Same-day travel by air rose 24.1 per cent after falling 35.5 per cent in 2002. By contrast, same-day travel by rail fell 27.9 per cent after increasing 10.6 per cent the previous year. Both interprovincial and intraprovincial travel declined.

In 2004, tourism expenditures in Canada were \$55.5 billion, up 6.5 per cent from 2003, a reversal of the 2.0 per cent decline in 2003. Tourism spending by Canadians rose 4.5 per cent, while spending by foreigners rose 4.2 per cent. Tourism recovered after being adversely affected by the SARS outbreak, the war in Iraq, the forest fires in British Columbia, and the August power outage in Ontario in 2003. Tourism expenditures on transportation were \$20.3 billion, up 9.3 per cent. Expenditures on air travel rose 9.4 per cent, while motor vehicle-related expenditures rose 9.7 per cent. See tables A2-11 to A2-21 in the Addendum for more on tourism.

EMPLOYMENT

While recent figures are not available for all modes, the number of people employed in the transportation sector is estimated to be around 834.8 thousand.⁴ The trucking industry had the greatest number of employees in the transportation sector with 329 thousand, or 39.4 per cent. In 2004, employment in the air transport services increased for the second year in a row, to 79.7 thousand. Estimates for rail services employment are unchanged at 36.4 thousand. Employment in highway construction and maintenance is estimated to be 65 thousand in 2004.

For detailed information on employment and salaries in the transportation sector see tables A2-22 to A2-47 in the Addendum.

ENERGY CONSUMPTION

Total domestic energy consumption increased by 2.7 per cent in 2003. The strongest sectors were mining (+22 per cent) and forestry, which after a 6.2 per cent decline in 2002 rebounded with a 9.3 per cent increase. This surpassed all levels of consumption registered since 1990. The only sectors to see declines in energy use were public administration (-1.6 per cent) and manufacturing, not including its transportation component (-1.1 per cent). Energy consumption by the transportation sector increased by only 0.7 per cent, reducing its share of the total from 33.8 per cent in 2002 to a still significant 33.2 per cent in 2003.

Road energy use increased by 3.2 per cent in 2003, making it the only mode to use more energy. This boosted its share of total transportation energy consumption to 77 per cent, compared with 75 per cent the two previous years. The aviation sector used the same amount of energy in 2003 as in 2002. All other modes used less energy, pipelines by 15.2 per cent, marine by 6.9 per cent and rail by 0.3 per cent. See Addendum tables A2-48 to A2-55 for more on transportation energy consumption.

3 Domestic travel refers to trips at least 80 kilometres from a traveller's usual place of residence, excluding trips to or from work or school.

4 This estimate excludes private trucking employment.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

In 2003, productivity in selected transport industries (rail, air and trucking) increased marginally by 0.3 per cent, in large part due to a gain of nearly one per cent in labour productivity. These modest increases are well below the average yearly increases experienced in labour (2.9 per cent) and multi-factor (2.9 per cent) productivity throughout the 1998-2003 period.

Fuel unit costs increased by 7.9 per cent on average in 2003 for the rail, air and trucking industries with the air industry experiencing the largest increase (15.5 per cent). Public carriers' total unit costs increased by 6.0 per cent as opposed to 1.9 per cent for private business carriers.

Transport prices and demand fluctuated in the rail, air and trucking industries in 2003. Freight prices increased by 1.8 per cent on average while demand rose by 2.3 per cent. In the passenger transportation, prices and demand dropped by an estimated 5.8 and 6.6 per cent, respectively, possibly reflecting the impact of the SARS outbreak and the war in Iraq. However, in contrast to air passenger transportation, demand and prices for public passenger carriers rose 0.7 and 2.5 per cent, respectively. (See tables A2-56 to A2-64 in the Addendum.)

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

VALUE-ADDED OUTPUT OF COMMERCIAL TRANSPORTATION

Value-added estimates⁵ of output are available for transportation services that are offered on a commercial or for-hire basis. Such estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

In 2004, commercial transportation industries accounted for \$43.3 billion (1997 dollars), or 4.1 per cent of the GDP in Canada, a marginal increase over 2003. Trucking was the most important industry, making up \$14.4 billion or 1.4 per cent of the total output. The air and rail transportation industries accounted for \$3.8 billion (0.4 per cent) and \$5.5 billion (0.5 per cent), respectively, while urban transit accounted for \$3.3 billion (0.3 per cent) of GDP.

Table 2-4 shows the contributions of the different modes to Canada's GDP in 2004.

TABLE 2-4: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP,¹ 2004

	<i>Millions of constant 1997 dollars</i>	<i>Per cent of GDP</i>
Industries		
Air	3,780	0.4
Rail	5,452	0.5
Water	1,396	0.1
Truck	14,412	1.4
Urban transit systems	3,265	0.3
Interurban and rural bus	204	0.0
Miscellaneous ground passenger transportation	1,763	0.2
Other transportation ²	13,007	1.2
Transportation industries	43,279	4.1

1 Gross Domestic Product at Basic Prices.

2 Includes scenic and sightseeing, postal and courier services as well as support activities for other modes of transportation such as baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

TRANSPORTATION-RELATED DEMAND

The total of all transportation expenditures for the final demand of goods accounted for 12.5 per cent of expenditures in Canada's economy in 2004. Personal expenditures on transportation were the largest portion of the demand and accounted for 8.2 per cent of GDP, an increase of two per cent over 2003. However, this was lower than the five per cent per year average growth rate of the previous five years and reflects a one per cent decrease in motor vehicle purchases. Transportation equipment purchases, mostly motor vehicles, made up 3.6 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, accounted for another six per cent. Personal expenditures on commercial transportation were one per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-65 in the Addendum.

Investment in transportation made up 2.6 per cent of the GDP in 2004. Investment by business accounted for the largest portion of this, 2.0 per cent of GDP. Even though investment in transportation equipment rose 5.1 per cent, overall, business transportation investment fell by 1.3 per cent, as investment in inventories, primarily in motor vehicles, fell sharply. Government investment in transportation was heavily dominated by expenditures on roads, which made up 89 per cent of spending and accounted for 0.6 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

5 A value-added measure of output is referred to as net output and is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

TABLE 2-5: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2004

	Millions of dollars 2004	Per cent of GDP 2004	Per cent annual growth rate 2003 – 2004	Per cent annual growth rate 1998 – 2003
Personal Expenditures on Transportation	106,453	8.2	3.2	5.0
New and used transportation equipment	46,695	3.6	(3.1)	4.8
Repair and maintenance expenditures	14,858	1.1	6.0	6.2
Transportation fuels and lubricants	24,137	1.9	11.6	7.7
Other motor vehicle related services	7,973	0.6	7.5	4.4
Purchased commercial transportation	12,790	1.0	7.8	0.8
Investment in Transportation	33,936	2.6	0.4	N/A
Business investment in transportation	25,849	2.0	(1.3)	N/A
Transportation infrastructure (roads and railways)	2,270	0.2	5.2	6.8
Transportation equipment	21,823	1.7	5.1	2.1
Inventories	1,756	0.1	(46.3)	N/A
Government investment in transportation	8,087	0.6	6.2	3.9
Transportation infrastructure (roads)	7,168	0.6	10.1	4.4
Transportation equipment	919	0.1	(16.8)	1.2
Government Spending on Transportation¹	12,043	0.9	(0.2)	1.8
Road maintenance	7,133	0.6	(7.7)	1.3
Urban transit subsidies	2,910	0.2	10.3	(1.2)
Other spending	2,001	0.2	17.0	9.8
Exports	102,180	7.9	4.6	2.2
Automotive products	90,323	7.0	3.4	2.2
Commercial transportation	11,857	0.9	15.3	2.4
Imports	93,077	7.2	2.8	2.9
Automotive products	77,303	6.0	1.2	2.7
Commercial transportation	15,774	1.2	10.9	3.9
Total Transport-Related Final Demand	161,535	12.5	3.6	N/A
Gross Domestic Product at Market Prices	1,293,289	100.0	6.1	5.9
Transportation-related domestic demand	150,742	11.7	3.5	N/A
Final Domestic Demand	1,229,458	95.1	5.6	5.5

Note: N/A = Not available.

¹ 2004 figures: growth rates over previous year are growth rates over 2002.

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

Automotive trade dominates transportation exports and imports. In 2004, exports of automotive equipment, including parts, were equivalent to 7.0 per cent of the GDP, while imports were equivalent to 6.0 per cent. Automotive exports rose 3.4 per cent in 2004, while automotive imports rose 1.2 per cent.

Transportation-related domestic demand made up 11.7 per cent of final domestic demand in 2004. This is lower than the percentage for transportation-related final demand, reflecting the importance of automotive products to Canada's external trade.

PROVINCIAL AND TERRITORIAL TRANSPORTATION SPENDING

COMMERCIAL TRANSPORTATION

Table 2-6 shows the importance of provincial and territorial commercial transportation⁶ to the Canadian total transportation GDP and to total provincial/territorial GDP. Most of the commercial transportation activity took place in Ontario and Quebec, which together account for 58 per cent of the total commercial transportation measured in GDP. Alberta and British Columbia accounted for 28 per cent. Transportation was most important to the Manitoba economy where it accounted for 6.1 per cent of GDP.

TABLE 2-6: COMMERCIAL TRANSPORTATION AS A PER CENT OF GDP BY PROVINCE AND TERRITORIES, 2001

	Millions of dollars	Per cent of total Canadian	Per cent of total provincial/territorial
Newfoundland and Labrador ¹	448.7	1.1	3.5
Prince Edward Island ¹	74.4	0.2	2.4
Nova Scotia ^{1,2}	1,015.0	2.4	4.3
New Brunswick ^{1,2}	1,011.6	2.4	5.4
Quebec	9,053.4	21.3	4.2
Ontario	15,405.9	36.3	3.7
Manitoba ¹	1,975.1	4.7	6.1
Saskatchewan	1,193.0	2.8	3.8
Alberta	5,175.5	12.2	3.5
British Columbia	6,875.7	16.2	5.6
Territories ^{1,2}	182.4	0.4	3.7

Note: GDP at basic prices.

¹ Includes warehousing.² Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

6 Due to unavailability of constant dollar estimates of provincial GDP by industry only current dollar estimates of transportation are available. The latest year for which they are available is 2001. For some provinces and territories it is not possible to obtain estimates that do not include warehousing and/or pipelines due to confidentiality reasons.

PERSONAL TRANSPORTATION

In 2003, Canadians spent \$103.1 billion on personal transportation. Of this total, Ontario residents accounted for 40 per cent, Quebec residents 23 per cent, British Columbia residents 13 per cent, and Alberta residents 11 per cent.

On a per capita basis, Alberta residents spent an average of \$3,684 on transportation in 2003, the most of any province or territory. Nunavut residents spent the least, only \$1,026. Other than Alberta, only Ontario, Yukon and Northwest Territories residents spent more than the national average of \$3,257.

On average, Canadians spent 15.0 per cent of total personal expenditures on transportation in 2003. Quebec residents spent 16.0 per cent of their total personal spending on transportation, the highest proportion of any province or territory.

Personal expenditures on transportation represented 8.9 per cent of final domestic demand in Canada in 2003. It made up at least 9.0 per cent in New Brunswick, Quebec and Ontario, but only 6.2 per cent in the Yukon, 4.5 per cent in the Northwest Territories and 1.7 per cent in Nunavut.

Table 2-7 shows personal expenditures on transportation by province and territory in 2003.

TABLE 2-7: PERSONAL EXPENDITURES ON TRANSPORTATION BY PROVINCE AND TERRITORY, 2003

	Millions of dollars	Per capita dollars	Per cent of total Provincial/Territorial personal expenditures	Per cent of total Canadian personal transportation expenditures	Per cent of Provincial/Territorial final domestic demand
Newfoundland and Labrador	1,452	2,801	15.2	1.4	7.9
Prince Edward Island	372	2,711	14.2	0.4	8.1
Nova Scotia	2,720	2,905	14.3	2.6	8.2
New Brunswick	2,240	2,982	15.8	2.2	9.1
Quebec	24,027	3,207	16.0	22.8	9.5
Ontario	40,716	3,322	14.7	40.0	9.0
Manitoba	3,229	2,780	13.7	3.1	8.3
Saskatchewan	2,866	2,882	14.1	2.7	8.1
Alberta	11,637	3,684	15.3	11.2	8.0
British Columbia	12,919	3,111	13.8	12.6	8.5
Yukon	112	3,659	14.3	0.11	6.2
Northwest Territories	142	3,353	12.7	0.14	4.5
Nunavut	30	1,026	6.9	0.03	1.7
Canada	103,131	3,257	15.0	100.0	8.9

Source: Statistics Canada

GOVERNMENT SPENDING ON TRANSPORTATION

3

In fiscal year 2003/04, transportation expenditures by all levels of government were nearly \$20 billion.

This chapter gives an overview of the financial implications of public-sector involvement in transportation. It first summarizes all transportation expenditures and revenues by level of government. It then gives a synopsis of federal and provincial revenues from transportation users, followed by a detailed breakdown of expenditures by level of government. Finally, it presents consolidated expenditures by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

As shown in Table 3-1, transportation expenditures by all levels of government reached about \$19.7 billion in 2003/04, an increase of \$231 million, or 1.2 per cent from the previous year. Transportation spending by governments on a per capita basis was \$620, up 0.3 per cent. Although all levels of government contributed to this growth, the largest increase was by provincial/territorial governments, which increased their net spending by \$139 million, or 1.7 per cent. Local governments decreased their net spending marginally by \$35 million, or 0.4 per cent. Federal transport expenditures increased by \$127 million, or 5.0 per cent, and are expected to increase by \$199 million, or 7.5 per cent in 2004/05. All government fees and tax revenues from transport users totalled \$15.3 billion, in 2003/04, up 3.0 per cent. Federal non-tax revenues from transport users are expected to decline 3.9 per cent in 2004/05, following a decline of 12.3 per cent in 2003/04. Table A3-1 in the Addendum shows gross and net expenditures on transportation by governments from 1995/96 to 2004/05.

TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES ON TRANSPORTATION, 2000/01 – 2004/05

(Millions of dollars)

	2000/01	2001/02	2002/03	2003/04	2004/05 ^F
Transport Canada expenses (Gross) ¹	1,233	1,529	1,352	1,382	1,465
Other federal expenses (Gross)	786	783	1,163	1,261	1,376
Provincial/Territorial ²	7,599	7,727	8,152	8,291	N/A
Local ³	8,189	8,538	8,764	8,729	N/A
Total gross transport expenditures	17,808	18,577	19,431	19,663	N/A
Gross expenditures per capita	579	597	618	620	N/A
Transport Canada revenues	352	371	423	334	347
Other federal revenues ⁴	45	37	482	459	416
Specific tax revenues from transport users ⁵	13,379	13,365	13,955	14,509	N/A

Note: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca). Some figures from previous years have been modified and therefore do not match last year's report. Totals may not add up due to rounding.

1 Excludes transfers of \$22 million to Crown Corporations not involved in transport in 2002/03 and 2003/04, payments to CATSA and an estimated portion of transfers for Toronto Waterfront Revitalization Project not transport-related.

2 Net of federal transfers as reported by the provinces.

3 Calendar year basis; net of federal and provincial transfers. Revisions of more than \$1 billion in 2001/02.

4 Revenues from Coast Guard services and small port users.

5 Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.

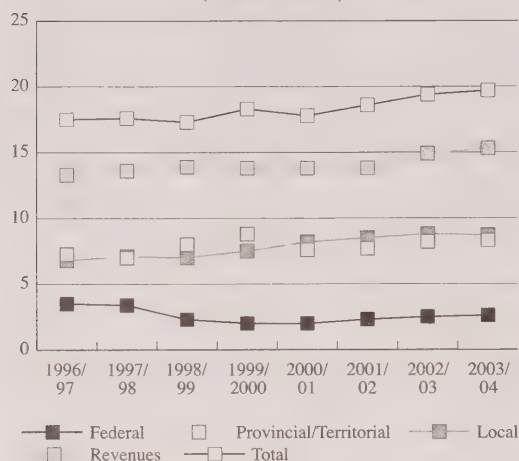
F Forecast at January 31, 2005, of full year.

Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate, The Canadian Transportation Agency; internal reports from several agencies and federal departments; provincial/territorial departments of transportation; Statistics Canada Public Institutions Division, unpublished data

Figure 3-1 shows the trend in spending by level of government from 1996/97 to 2003/04. Net local expenditures have generally risen over this period, while both net provincial/territorial and federal expenditures have had periods of decline. Total government expenditures fluctuated around \$17.5 billion until 1998/99 but have trended up in the past five years. Total revenues stayed below \$14 billion until 2001/02, after which they have risen.

FIGURE 3-1: GOVERNMENT EXPENDITURES AND REVENUES ON TRANSPORTATION, 1996/97 – 2003/04

(billions of dollars)



Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; internal reports from several agencies and federal departments; provincial/territorial departments of transportation; Statistics Canada, Public Institutions Division, unpublished data

FEDERAL EXPENSES RELATED TO TRANSPORT FACILITIES AND SERVICES

The Government of Canada operates roads and bridges, airports, harbour/ports and marine navigational and rescue services (Coast Guard). It also provides modal safety, security and policy services. Transport Canada performs several multimodal activities, ranging from security and emergency preparedness to regulating and monitoring the transportation of dangerous goods. As Table 3-2 shows, total direct federal transport expenses in 2004/05 are forecast to increase by 8.5 per cent to reach close to \$2.0 billion. These expenses have increased 42 per cent since 2000/01, reflecting the increased spending on safety and security.

Canadian government activities in transportation fall under two broad categories: operations; and safety, security and policy. Expenses related to operations have been fairly constant over the past five years but are expected to increase by \$13.4 million (1.5 per cent) in 2004/05 to reach \$938 million. Expenditures on safety, security and policy are expected to increase by \$130 million (16.4 per cent) to reach \$921 million. This is a comparable increase to the previous year. Major increases in recent years are related to commitments to security in the air sector, particularly spending by the Canadian Air Transport Security Authority. Table A3-2 in the Addendum shows expenditures by the federal government from 1996/97 to 2004/05.

TABLE 3-2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 2000/01 – 2004/05

(Millions of dollars)

	2000/01	2001/02	2002/03	2003/04	2004/05 ^F
Operations	945	945	934	924	938
Airports	92	75	56	75	60
Aircraft services	70	59	57	62	63
Coast Guard	496	475	498	505	510
Ports and harbours ¹	116	117	118	126	154
Roads and bridges ²	159	208	193	147	151
Research and development	11	10	13	10	-
Safety, Security and Policy	353	446	686	791	921
Canadian Air Transport Security Authority	-	-	259	351	449
Air Safety and Policy ³	154	162	169	190	175
Marine Safety and Policy	49	56	59	58	90
Road and Rail Safety and Policy	40	46	53	48	49
Multimodal Policy and Safety ⁴	111	181	146	144	157
Corporate Services of Transport Canada	111	124	131	119	127
Total	1,409	1,515	1,750	1,834	1,985

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes expenses for small fishing ports by Fisheries and Oceans Canada.

2 Includes contributions by Transport Canada to the Champlain and Jacques Cartier Bridges, and expenses of the National Capital Commission, Public Works and Government Services Canada, Parks Canada, and Indian and Northern Affairs.

3 Includes expenses of the Civil Aviation Tribunal.

4 Includes expenses for the regulation and inspection of the transportation of dangerous goods, Security and Emergency Preparedness, the Canadian Transportation Agency, and other multimodal safety, policy and analysis. Large increases in 2001/02 related to the purchase of explosives detection equipment.

F Forecast at January 31, 2005, of full year.

Source: Transport Canada

FEDERAL SUBSIDIES TO TRANSPORTATION

In 2004/05, total federal direct subsidies, grants and contributions are projected to increase by \$49 million (6.0 per cent) to reach \$856 million. The major source of this increase is highway transfers, which are expected to increase by \$96 million to \$363 million. Subsidies to the rail mode decreased by \$62 million, primarily due to a \$73 million drop in payments to VIA Rail. Subsidies to the air mode also declined by \$9 million to \$37 million. Subsidy payments to the marine mode rose by \$4 million to \$149 million. Table 3-3 gives more details on these subsidies. Addendum Table A3-3 gives the same information over a greater time series.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 2000/01 – 2004/05

(Millions of dollars)

2000/01 2001/02 2002/03 2003/04 2004/05^F**Air Mode**

Airport (Operation & Capital)	46.8	50.6	35.3	38.4	34.2
Airport/Airline Assistance ¹	-	123.9	25.4	4.5	-
Other	1.8	2.9	2.7	3.2	3.3
Total Air	48.5	177.4	63.4	46.0	37.5

Marine Mode

Marine Atlantic	38.6	36.8	46.4	41.6	72.9
Transfers to ports ²	45.4	21.6	22.1	65.7	27.1
Other ferry and coastal services	30.8	31.7	32.2	32.0	33.6
Other ³	35.2	24.5	8.5	5.5	15.2
Total Marine	150.0	114.6	109.2	144.8	148.8

Rail Mode

VIA Rail	231.6	310.2	255.7	264.2	191.3
Hopper cars	18.2	16.4	16.0	12.9	13.2
Grade crossings	7.5	7.5	7.5	7.5	7.5
Other ⁴	8.4	8.3	8.6	8.9	20.2
Total Rail	265.7	342.5	287.8	293.6	231.3

Highway Modes

Transition programs ⁵	15.3	23.7	37.2	33.7	33.6
Highway agreements ⁶	62.8	69.0	101.4	116.2	206.2
Infrastructure Canada program	-	7.4	33.8	39.7	50.2
Fixed link in					
Prince Edward Island	47.2	48.6	49.2	51.4	52.0
Other ⁷	20.1	11.1	13.2	15.8	19.5
Total Highway Modes	145.4	157.9	234.8	256.8	267.3

Transit Systems^{7,8}

	-	2.4	66.3	53.7	65.4
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Grand Total⁹

	610.1	797.4	763.0	797.2	807.7
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Notes: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

Transport-related expenditures by regional development agencies have been added, retroactively, to 1996/97. Totals may not add up due to rounding.

1 Includes air carrier assistance of \$99 million in 2001/02 and a cabin security enhancement program of \$25 million and \$3.5 million in 2002/03 and 2003/04, respectively.

2 Includes contributions to the Port Divestiture Fund, a payment of \$36 million to the Government of Quebec for the transfer of ferry wharves in 2000/01 and \$64 million for the payment of a loan guarantee in 2003/04 and \$9 million in support payments in 2004/05 to Ridley Terminals.

3 Includes a payment of \$21.4 million to the Hamilton Harbour Commission for the settlement of a civil litigation in 2001/02.

4 Includes \$14.2 million in 2004/05 for Regional and Remote Passenger Services

5 Offset federal programs to the elimination of Western Grain Transportation Act Programs.

6 Includes \$33 million in 2002/03, \$65 million in 2003/04, and \$202 million in 2004/05 under the Strategic Highways Infrastructure Program.

7 Includes in 2002/03 and 2003/04 the estimated road and transit portion of the Toronto Waterfront Revitalization Project.

8 Spending included previously under Highway Modes.

9 Includes small amounts not classified elsewhere.

F Forecast at January 31, 2005, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

provinces/territories increased by \$139 million (1.7 per cent) to \$8.3 billion. Local net expenditures, on the other hand, fell by \$35 million (0.4 per cent) to \$8.7 billion.

While for Canada as a whole, net provincial/territorial expenditures were approximately equal to local expenditures, this is not the case for all provinces. In the Yukon and Northwest Territories and Prince Edward Island, net local spending made up approximately 20 per cent of the combined spending with provincial governments, while in Ontario it made up only 64 per cent.

Net expenditures on transportation by the provincial and local governments in Ontario were the highest of any province or territory, at \$5.6 billion, or 33 per cent of the national total. On a per capita basis, the Yukon and the Northwest Territories spent the most, more than \$2,000 in 2003/04. Alberta and Prince Edward Island spent the most of the provinces, more than \$700. Addendum Table A3-6 gives further details.

Since 1999/2000, provincial/territorial and local governments have spent an average of 2.5 per cent per year more on transportation. Quebec, Saskatchewan and Alberta had the largest average increases, approximately five per cent or more, while New Brunswick, Ontario and Manitoba had average growth rates below the national average.

Federal transfers in 2003/04 were equivalent to 1.9 per cent of transport spending by local and territorial governments. The Yukon and the Northwest Territories were the most reliant on federal transfers, with respectively 23 per cent and 12 per cent of its transport spending dependent on federal transfers. New Brunswick followed at eight per cent.

Spending on highways and roads is the most important category of transport-related expenditures for all provinces. In 2003/04, it accounted for about 78 per cent of total net spending by provincial/territorial and local governments. In the Maritime provinces and Saskatchewan, it accounted for over 90 per cent. Nationally, provincial spending and local spending in this category accounted for about 37 per cent and 41 per cent respectively.

Other modes are also significant for some provinces/territories. Marine transportation is important for Newfoundland, where it made up 10 per cent of spending in 2003/04. Spending on air transportation is significant for the northern territories, accounting for 17 per cent of transport spending in the Northwest Territories. Expenditures on transit are important in the

DISTRIBUTION OF PROVINCIAL/TERRITORIAL AND LOCAL EXPENDITURES BY PROVINCE¹

In 2003/04, provincial, territorial and local governments spent \$17.0 billion on transportation net of transfers from the federal government. This was a \$104 million (0.6 per cent) increase over 2002/03. In 2003/04 provincial/territorial governments spent about \$438 million more than local governments. Net expenditures of

1 Detailed data are available in the Addendum to this report on Transport Canada's Web site (www.tc.gc.ca).

most populous provinces, where they accounted for 19 per cent of total expenditures in 2003/04. British Columbia and Ontario reported the largest transit expenditure shares at 20 and 22 per cent, respectively.

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. Revenues from cost-recovery initiatives are credited to the budgets of federal departments, while revenues from other sources are credited to the federal government's Consolidated Revenue Fund. Both are included in this analysis. Excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees, constitute revenues collected from transport users. Table 3-4 highlights government revenues from transport users from 2000/2001 to 2004/05.

In 2003/04, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected \$15.3 billion from transport users through fuel taxes and permit and licence fees. This was a three per cent increase from 2003/004. Road fuel taxes make up the largest component of government tax revenues from transportation; they averaged \$10.4 billion, or 73 per cent of all government revenues from transport users, from 1999/2000 to 2003/04. In 2003/04, road fuel tax revenues increased by \$478 million, or 4.5 per cent. Other fuel tax revenues decreased in 2003/04 by \$12 million, or 2.0 per cent, due to a combination of reduced activity and increased fuel efficiency in other modes.

In 2004/05, federal government transportation revenues other than fuel taxes are expected to fall 3.9 per cent to \$762 million. This is due primarily to lower air travellers security fees, which are expected to decrease from \$420 million to \$375 million. Marine fees are expected to total about \$60 million, down from \$72 million in 2003/04. Table 3-4 also shows other federal revenues not credited to transport, such as revenues from the leases of hopper cars or the sale of port assets.

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 2000/01 – 2004/05

	(Millions of dollars)				
	2000/01	2001/02	2002/03	2003/04	2004/05 ^F
Airport revenues	250	264	319	226	256
Aircraft services	28	34	26	23	30
Air travellers security charge	-	-	443	420	375
Marine revenues ¹	72	70	68	72	60
Leases of hopper cars ²	14	14	15	19	15
Other fees and recoveries ³	35	26	33	34	26
Total	397	408	905	793	762
Federal fuel taxes	4,807	4,758	4,873	5,119	N/A
Public and non-transport use ^{4,5}	405	396	384	402	N/A
Road ⁵	4,168	4,136	4,252	4,458	N/A
Other modes ⁵	234	227	237	258	N/A
Provincial/territorial fuel taxes	7,040	7,010	7,345	7,676	N/A
Sales tax equivalent ^{5,6}	799	777	793	860	N/A
Road ⁵	5,952	5,965	6,280	6,551	N/A
Other modes ⁵	289	268	273	264	N/A
Provincial/territorial licences/fees ⁷	2,737	2,769	2,914	2,977	N/A
Total tax revenues from transport users	13,379	13,365	13,955	14,509	N/A
Total tax and fee revenues from transport users	13,776	13,772	14,860	15,302	N/A

Note: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.

2 Credited to the Consolidated Revenue Fund.

3 Includes air safety fees, other licensing and administrative fees, inter- and intra-departmental transfers for services and various regulatory fees credited to either Transport Canada or the Consolidated Revenue Fund.

4 Estimated fuel taxes from public administrations and mobile users of the public transport system.

5 Estimates by Transport Canada (revised).

6 Estimates based on the sales tax that would have applied to provincial fuel prices.

7 The amounts shown exclude licences and registration fees dedicated to the Société de l'Assurance Automobile du Québec.

F Forecast at January 31, 2005, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

Following is a summary of consolidated federal expenses, as well as expenditures by provincial/territorial and local governments, netted of transfers received from other levels of government from 2000/2001 to 2003/04. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period.

In 2003/04, total government spending on roads fell 2.1 per cent to \$13.6 billion, accounting for 69 per cent of overall spending on transportation. Road expenditures have risen at an average annual rate of 2.7 per cent for the past five years.

Public funding for transit systems rose \$262 million (9.9 per cent) to \$2.9 billion, accounting for 15 per cent of all government expenditures on transportation in 2003/04. This is the highest level since 1998/99.

In 2003/04, the air mode accounted for \$805 million, or 4.1 per cent of gross government spending on transportation. Air-related public spending, which had been declining until 1999/2000, has since recovered by about 90 per cent. This increase in spending reflects the new initiatives related to safety and security.

Public spending related to the marine mode increased 10.8 per cent to just surpass \$1 billion (excluding the transfer of the BC Ferry debt to the provincial government). The share of the marine mode in public spending on transportation has not changed significantly since the mid-1990s, remaining at about five per cent.

Public spending on rail accounted for 1.8 per cent of gross government spending on transportation in 2003/04. It has grown by 11 per cent per year since 1999/2000. Rail passenger subsidies make up about 80 per cent of total spending on rail.

The federal and provincial governments spent \$2.2 billion on the air, marine and rail modes combined in 2003/04. They took in \$1.3 billion in fees and tax revenues from transport users over the same period. Following the introduction of the Air Travellers Security Charge in 2002/03, revenues increased by \$443 million.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. This category accounts for about four per cent of government transportation spending. Table A3-7 in the Addendum details government spending on transportation by mode from 1994/95 to 2003/04.

TABLE 3-5: TRANSPORT EXPENDITURES/REVENUES BY MODE AND LEVEL OF GOVERNMENT, 2000/01 – 2004/05

(Millions of dollars)					
	2000/01	2001/02	2002/03	2003/04	2004/05 ¹
Federal Operating and Maintenance, Capital and Subsidies¹					
Air	364	474	605	724	785
Marine	811	763	784	833	903
Rail	283	363	313	315	255
Road	327	393	456	441	539
Transit	-	2	66	54	65
Other/Overhead	233	316	290	276	293
Subtotal	2,019	2,312	2,515	2,642	2,841
Provinces/Territorial/Local²					
Air	77	81	79	80	N/A
Marine	179	182	205	264	N/A
Rail	21	27	30	32	N/A
Road	12,847	13,147	13,489	13,207	N/A
Transit	2,341	2,424	2,568	2,842	N/A
Other/Overhead	324	405	546	596	N/A
Subtotal	15,789	16,265	16,916	17,020	N/A
Total Expenses: All Government Levels					
Air	442	555	683	805	N/A
Marine	989	945	989	1,096	N/A
Rail	304	390	343	347	N/A
Road	13,174	13,540	13,945	13,647	N/A
Transit	2,341	2,427	2,634	2,896	N/A
Other/Overhead	558	721	836	872	N/A
Subtotal	17,808	18,577	19,431	19,653	N/A
Government Revenues from Transport Users³					
Road users	12,857	12,870	13,446	13,989	N/A
Rail, Air and Marine	912	899	1,404	1,301	N/A
Multimodal	8	4	10	12	N/A
Total	13,776	13,772	14,860	15,302	N/A

Note: N/A = Not available. More details are available on Transport Canada's Web site (www.tc.gc.ca).

Totals may not add up due to rounding.

1 From tables 3-2 and 3-3.

2 Transport Canada; provincial/territorial departments of transportation. Many provinces have moved to unconditional grant to local governments; transportation transfers may therefore be underreported. Net expenses by local governments are netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division; data are on a calendar year basis.

3 From Table 3-4.

F Forecast at January 31, 2005, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

TRANSPORTATION SAFETY AND SECURITY

4

Canadians' confidence in transportation security in all modes continued to increase. There were fewer fatalities in both the air and road transportation modes, however, there was an increase in fatalities for marine and rail. The number of reported accidents decreased in aviation and marine, and increased for rail.

Transport Canada promotes the safety and security of Canada's transportation system consisting of the air, marine, rail and road modes of transportation, including the transportation of dangerous goods. A safe and secure transportation system aims to protect its citizens from those occurrences which result in the loss of or damage to life, health and property. It also enables the efficient flow of people and goods and protects the environment from pollution that can result from occurrences. It is an essential element for a healthy population, a high quality of life and a prosperous economy.

Policy development, rule-making, monitoring and enforcement, and outreach activities are carried out in support of the safety and security objective. Through its policy development and rule-making efforts for all the modes of transportation, Transport Canada establishes and implements legislation, regulations, standards and policies. Monitoring and enforcement activities include: issuing licences, certificates, registrations and permits, monitoring compliance through audits, inspections and surveillance, and taking appropriate enforcement action in instances of non-compliance. In particular, the department has inspectors who monitor the system to make sure the rules are being followed, and, if required, have the means to enforce the policies and rules. Outreach activities make the users and industry aware of the requirements and involve efforts to promote, educate and increase awareness of safety and security issues.

The safety and security of the transportation system is a shared responsibility among many stakeholders. Transport Canada collaborates with other federal departments and agencies whose programs and services may be affected by transportation activities. For example, with respect to promoting aviation security, this responsibility is shared with the Canadian Air Transport Security Authority (CATSA), which is responsible for delivering air transport security services in accordance

with Transport Canada regulations and standards. Transport Canada works with provincial, territorial and municipal governments particularly concerning the maintenance of the highway system, enforcement of road safety and the co-delivery of the Transportation of Dangerous Goods (TDG) program. Transport Canada also works closely with transportation sector industries, agencies and associations, all of which have a vested interest in the transportation infrastructure, regulatory regime and transportation safety and security. In addition, Transport Canada collaborates with other countries such as the United States, Mexico and other international partners — such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) — to harmonize safety and security standards and to share best practices in safety and security systems.

Canada already has one of the safest and most secure transportation systems in the world and continues to work diligently to further improve the system. One method of measuring the safety and security of the transportation system is through tracking the public's ratings of safety and security for each transportation mode. The data reveal that, in the case of all four transportation modes, more than 90 per cent of those Canadians who have an opinion give either a *moderately* or a *very safe and secure* rating. These most recent available ratings (January, 2005), are shown in Table 4-1.

TABLE 4-1: PUBLIC'S CONFIDENCE RATING OF THE SAFETY AND SECURITY OF AIR, RAIL, MARINE AND ROAD TRAVEL, JANUARY 2005

<i>Per cent rating for:</i>	<i>Moderately Safe and Secure (per cent)</i>	<i>Very Safe and Secure (per cent)</i>
Air Travel	36	61
Rail Travel	35	63
Marine Travel	46	51
Road Travel	65	29

Source: Rethinking Government 2004 - Wave 4 Report, EKOS Research Associates, February 2005

The level of transportation safety can also be measured by the number of occurrences that result in an accident. In 2004, a decrease in the number of accidents was noted in aviation and marine. There was an increase, however, in rail transportation accidents. The number of fatalities dropped in aviation transportation, but increased in marine and rail. The number of road fatalities decreased notably in 2003 (latest data). Moreover, the number of transportation-related fatalities has remained below the previous five-year averages in aviation, rail and road, and the transportation of dangerous goods. With the exception of a fluctuation in 2004 for rail, the safety performance record observed in the three other transportation modes has contributed towards the long-term downward trend in accidents reported over the past ten years. To further improve on the transportation safety performance on the long-term, implementation of the *Safety Management Systems (SMS)* is one of the key evolving strategic directions undertaken by Transport Canada. The *SMS* is a formal framework for integrating safety performance into day-to-day operations within the transportation industry. To date, the *SMS* regulations are being introduced for aviation, implementation of regulations has been well under way in rail, and the marine *SMS* is evolving towards increased adoption for operators of Canadian domestic vessels. In addition, the modal strategic plans — the Civil Aviation's *Flight 2005*, the *Direction 2006 in Rail Safety*, the Marine Safety's *Strategic Plan 2003-2010* and the *Road Safety Vision 2010* — all report progress in 2004 against the set performance targets for reducing, on the long-term, the number of accidents, fatalities and injuries.

Over the past year, Transport Canada continued to take action to further enhance transportation security in all modes. A key development last year was the announcement of the Government of Canada's National Security Policy. Transportation-related aspects include a six-point plan for marine security; enhancement of aviation security including air cargo; and improving and extending security background check requirements for transportation workers. A summary of other key initiatives is found in Table 4-2.

This chapter reviews developments and initiatives concerning the safety and security of Canada's transportation system during 2004. After a review by mode of the 2004 safety records, transportation security is discussed and the various enhancements undertaken in 2004 are reviewed.

TABLE 4-2: KEY TRANSPORT CANADA SECURITY INITIATIVES IN 2004

Legislative and Regulatory Enhancements

- *Public Safety Act*
- Regulatory framework for a new airport screening program for non-passengers
- Amendments to security regulations covering flight crew procedures and training
- Marine Transportation Security Regulations

Transportation Security Programs

- Cabin Security Enhancement Contribution Program
- Aviation Transportation Security Clearance Program
- Marine Security Contribution Program
- Chemical, Biological, Radiological, and Nuclear (CBRN) Response Project
- National Critical Infrastructure Assurance Program (NCIAP)

Awareness Campaigns and Industry Training Initiatives

- Air Cargo Security Awareness Campaign
- Development of air cargo security training program for air cargo handlers, air carrier representatives, and the travelling public

International Initiatives

- G8 Secure and Facilitate Travel Initiative
- International Civil Aviation Organization (ICAO)'s Universal Security Audit Programme
- International Maritime Organization (IMO) International Ship and Port Facility Security (ISPS) Code.

TRANSPORTATION SAFETY

The most recent safety-related statistics for all modes of transportation, as well as for the transportation of dangerous goods, are included in this section. One of the principal sources of safety-related occurrence statistics are the reports of accidents and incidents made to the Transportation Safety Board (TSB). Accidents are those occurrences that have resulted in the loss of or damage to life, health and property, while incidents are those that have the potential to result in an accident. The specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (See the TSB Regulations at www.tsb.gc.ca/en/common/acts.asp for details on aviation, marine and rail.) Road collisions reported to the police are collected by the provinces and territories under the agreement of the Canadian Council of Road Transport Administrators and provided to Transport Canada to develop the national casualty collision statistics. The collection and processing of high volumes of data for more than 600,000 crash case occurrences annually can take over a year to compile before the statistics are released at the jurisdictional and national levels. Transport Canada is the primary source for the transportation of dangerous goods-related occurrence statistics (See the TDG regulations on reporting requirements at: www.tc.gc.ca/tdg/clear/part8.htm). As safety-related occurrence statistics, they provide indicators of the transportation system's safety performance and help focus efforts on those initiatives and activities that have high safety benefits. At the same time, efforts continue to better align and link safety-related data with

Transport Canada's key safety initiatives. In this year's report, these data alignment efforts are reflected for aviation where the TSB source data aligns with the Canadian Aviation Regulations for the *Flight 2005* strategic plan. (For more information, see Aviation Safety in this chapter.)

In 2004, the number of both aviation and marine accidents was down over 2003, by 16.5 and 12 per cent, respectively. The number of reported rail accidents increased, however, by nine per cent — seven per cent higher than the previous five-year average. The latest available statistics for road casualty collisions (2003) show a decrease of two per cent from 2002. Reportable accidents involving the transportation of dangerous goods increased slightly from 356 in 2003 to 379 in 2004.

The safety performance of the transportation system can also be measured by the number of fatalities. In 2004, there was just one fatality caused by dangerous goods in a transport accident. There were fewer fatalities in the air mode; however, there was an increase in fatalities for marine and rail, which also increased over the previous five-year averages for these two modes. From 2002 to 2003 (the most recent statistics), there was a notable decrease (5.6 per cent) in road-related fatalities. Table 4-3 and the more detailed Table A4-1 in the Addendum summarize the modal safety record, including the transportation of dangerous goods.

TABLE 4-3: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE, 2004¹ (2003 FOR ROAD⁴)

	Aviation ¹	Marine ²	Rail ³	Road ⁴	TDG ⁵
Accidents					
2004	241	431	1,128	156,764	379
2003	289	485	1,032	159,667	356
Five-year average (1999 – 2003)	295.6	462.8	1,053.6	155,455	436.8
Fatalities					
2004	34	27	99	2,766	1
2003	60	19	77	2,931	0
Five-year average (1999 – 2003)	55.6	23.4	93.2	2,915	1.2

Note: P = Preliminary data for 2004.

1 Canadian-registered aircraft, other than ultralights, based on the Canadian Aviation Regulations.

2 Accidents involving Canadian-registered vessels.

3 Railways under federal jurisdiction.

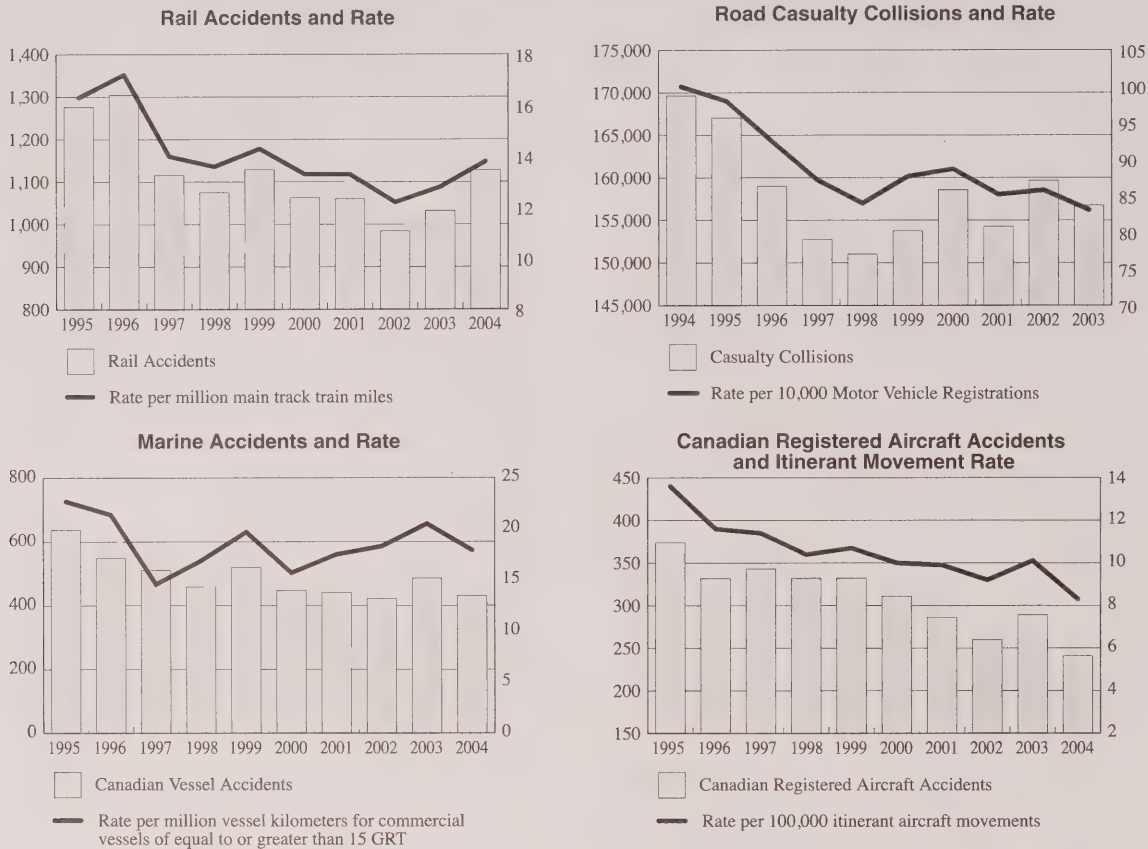
4 Road statistics relate to 2003 (most recent road safety statistics) and to the 1998-2002 five-year averages. Road accidents are casualty collisions, and exclude collisions in which only property is damaged.

5 TDG = Accidents where transportation of dangerous goods (TDG) were involved. Fatality data relate to only those deaths caused by the dangerous goods.

Source: Transportation Safety Board and Transport Canada

Both the long-term trends and specifics of each mode, including level of activity and the changes in exposure to risk, should be taken into account to ensure the year-over-year analysis and modal comparisons are complete. That said, accident rates in 2004 declined over the previous years for air. The accident rates for marine, available only for commercial vessels of over 15 gross registered tonnage, declined marginally over the past two years. The accident numbers for marine, however, are lower in 2004 than all other years, with the exception of 2002. The 2003 rates for road accidents decreased over previous years, once again becoming the lowest for the past ten years. The 2004 rates for rail accidents were up over recent years, but remained below the rates of the 1990s. These rates indicate that the changes in the levels of activity measures (representing to various degrees the increased exposure to risk) have contributed to the changes in the number of accidents. Figure 4-1 shows the ten-year trend for the four modes, a trend that, despite observed fluctuations from one year to another, is generally downward in terms of both number of accidents and accident rates per activity level. It is important to note that these rates are only a basis for interpreting the occurrence statistics in each mode and not for comparing across modes, given that the activity measure is particular to each mode. In addition, the available activity measure (denominator), representing to a certain extent all or key operations of modal activities, may have its own set of data limitations. For more details, including information on limitations of data, see Table A4-1 in the Addendum.

FIGURE 4-1: ACCIDENTS AND ACCIDENT RATES PER ACTIVITY MEASURE FOR RAIL, ROAD, MARINE AND AVIATION



Source: Transportation Safety Board, Transport Canada and Statistics Canada

RAIL SAFETY

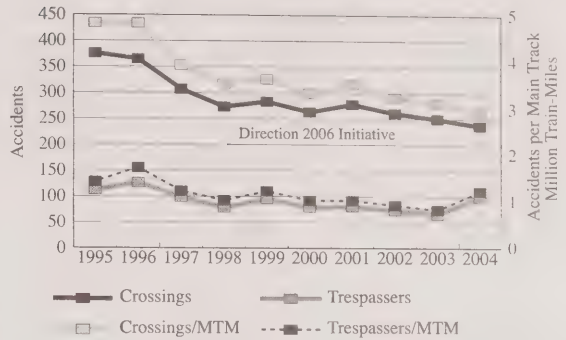
The number of rail accidents increased in 2004 by 9.3 per cent, from 1,032 in 2003 to 1,128 in 2004, and was seven per cent above the previous five-year average (1999-2003) of 1,053.6 accidents. An accident rate of 12.4 per million train-miles (includes main track train-miles and yard switching-miles) was observed in 2004, up from 11.5 in 2003 and the previous five-year average of 11.8. Of the reported accidents, the increase in 2004 over 2003 was attributed mainly to a greater number of non-main track derailments (from 389 in 2003 to 444 in 2004), and trespasser accidents (from 65 in 2003 to 99 in 2004). The non-main track accidents, involving either a derailment or collision (accounting for about half of the 2004 total) are generally minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. The 52 per cent increase in the number of trespasser accidents, however, resulted in two thirds of all 2004 rail fatalities.

In 2004, there were 72 fatal accidents resulting in 99 fatalities, an increase from the 77 fatalities in 2003 and the 1999-2003 average of 93.2 fatalities. There were 92 serious injuries in 2004, an increase over the 77 serious injuries reported in 2003. For more details, including a provincial breakdown of accidents, fatalities and serious injuries, as reported to the Transportation Safety Board, and involving railways under federal jurisdiction, see tables A4-2 to A4-4 in the Addendum. In recent years, a federal/provincial data-sharing initiative was undertaken to capture occurrences under provincial jurisdiction. In 2004, the provincial railways continued to account for a small portion of the total national rail networks (12.5 per cent, with 41 companies under provincial jurisdiction), while federal railways accounted for most of the network (87.5 per cent, with 38 companies regulated federally).

Direction 2006 Initiative — In 1996, Transport Canada along with its partners, the Railway Association of Canada, provincial and municipal governments, railway companies and their unions, law enforcement agencies, and other safety organizations, joined to promote and implement initiatives to change human behaviour at grade crossings and with respect to trespassing on railway property through eight key result areas: education, communications, enforcement, research, resources, outreach, legislative and performance measurement. The objective is to reduce railway grade crossing collisions and trespassing incidents by 50 per cent by 2006. (For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.) A high proportion of crossing and trespasser accidents are fatal or result in serious injury and they continue to account for approximately 90 per cent of total rail fatal and serious injury accidents. Crossing accidents decreased five per cent, from 250 in 2003 to 237 in 2004, and remained below the five-year average. Fatalities related to crossing accidents also decreased slightly, from 28 in 2003 to 25 in 2004, as did serious injuries, from 52 to 50. There were 99 trespasser accidents in 2004, a 52 per cent increase over the 2003 total of 65, and a 26.3 per cent increase over the 1999-2003 five-year average of 78.4. Fatalities from trespasser accidents increased to 67 in 2004 from 45 in 2003, up from the 53.4 for the 1999-2003 five-year average. Serious injuries also increased from 19 in 2003 to 34 in 2004.

Figure 4-2 presents recent trends in crossing and trespasser accidents, indicating a declining trend despite increases in road use (approximately ten per cent increase in motor vehicle registrations since 1996 – see Addendum Table A4-4) and urban development around railway lines. The to date grade crossing collisions have been reduced by 70 per cent of the Direction 2006 target. Trespassing incidents, however, have fluctuated, and in 2004 this reduction was only 43 per cent of the Direction 2006 target.

FIGURE 4-2: CROSSING AND TRESPASSER ACCIDENTS, 1995 – 2004



Source: Transport Canada, based on Transportation Safety Board data

Grade Crossing improvement program — In 2004, crossing accidents at public automated crossings decreased from 136 in 2003 to 119 in 2004, and at public passive crossings from 72 in 2003 to 64 in 2004. However, accidents at private crossings increased from 36 in 2003 to 50 in 2004. See Addendum Table A4-4 for more details. Through the Grade Crossing Improvement Program, Transport Canada funds up to 80 per cent of safety enhancement costs at approximately 80 to 100 sites across the country, an annual investment of up to \$7.5 million. Over \$100 million has been invested in this program over the past 15 years.

Railway Safety Management Systems (RSMS) — The Railway Safety Management System is a formal framework for integrating safety into day-to-day railway operations. The RSMS Regulations, which came into effect on March 31, 2001, require all federally regulated railway companies to implement and maintain an RSMS. In 2003-04, Transport Canada continued to establish its RSMS audit program through ongoing industry education and awareness, assessing company safety management system documentation (pre-audit), and evaluating the implementation and effectiveness of documented processes and procedures (verification audit). To date, a total of 40 railways have been the subject of an RSMS pre-audit, 12 of which have also been through verification audits. As the initial audits and follow-ups are completed, future audits will move to a more focussed, integrated, issue-driven approach, based on results from the monitoring programs and previous RSMS audits. For more information on rail safety RSMS, visit www.tc.gc.ca/railway/SMS_Regulations.htm.

ROAD SAFETY

Canada's road safety record continues to improve decade after decade. In 2003, (most recent statistics) there was a two per cent decrease in casualty collisions from 2002. There was, however, a notable decrease (5.6 per cent) in road-related fatalities (from 2,931 in 2002 to 2,766 in 2003). The 2.5 per cent decrease in road-related injuries, translates into 5,723 fewer injuries in 2003. Addendum Table A4-5 illustrates annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries. The annual changes may be attributable in part to changes in vehicular traffic, such as the number of vehicle registrations (up 1.3 per cent in 2003 over 2002) and vehicle-kilometres travelled (down one per cent). The 2003 casualty collision rate (50.1) per 100 million vehicle-kilometres travelled decreased slightly over the 2002 rate (50.6). The longer-term downward trend in fatalities (497 fewer fatalities in 2003 than the 3,263 in 1994) and total injuries (22,850 fewer injuries in 2003 than in 1994) has helped reduce the estimated annual social cost to Canadians of up to \$25 billion. These long-term trends are confirmed by a rate of 1.5 fatalities per 10,000 motor vehicle registrations in 2003 compared with 1.9 in 1994 (or to 2.5 for the 1984-1993 ten-year average). Continuing the trend of decreased rates, the 2003 rates became the lowest for the past ten years and since the 1950s. Data by provinces/territories are shown in Addendum Table A4-6.

Road Safety Vision 2010 (RSV 2010) — This initiative was introduced by the federal, provincial and territorial governments and the Canadian Council of Motor Transport Administrators. It aims to raise awareness of road safety issues, improve collaboration and cooperation among safety agencies, strengthen enforcement, and improve national road safety data collection and quality. Its national target is a 30 per cent decrease during the 2008 – 2010 period in the average number of road users killed or seriously injured over comparable 1996 – 2001 figures. In 2003, there were 6.7 per cent fewer fatalities and three per cent fewer serious injuries as compared to the 1996 – 2001 baseline of the RSV 2010. For more information on targets and sub-target areas, see *Road Safety Vision 2010-2002 Annual Report* at www.tc.gc.ca/roadsafety/vision/menu.htm.

Seat belts — A crucial RSV 2010 sub-target is to increase seat belt wearing rates among Canadians to 95 per cent or higher. Seat belts continue to save thousands of lives each year. In 2003, 36.8 per cent of driver and 37.4 per cent of passenger fatalities were victims who were not using seat belts. (See Addendum Table A4-7.) The percentages for serious injuries were

much lower (14.6 and 19.8 per cent, respectively), pointing to a relatively higher risk of fatalities for those not wearing seat belts in serious road crashes. For more details, see www.tc.gc.ca/roadsafety/tp/tp3322/2003/menu.htm. In September 2002, Transport Canada conducted an observational survey of seat belt use in rural communities during the daytime across Canada and in September 2003, a similar survey was conducted in urban communities. These surveys showed that the seat belt wearing rate in rural areas was lower than in urban communities. Much lower rates of seat belt use were indicated among front seat occupants of light trucks (80 per cent) than of passenger cars (88.9 per cent), and the rate was lower by approximately three per cent for males than that of females and similarly, by age group, among those aged 25 and under. For more information on the above surveys of seat belt use visit: www.tc.gc.ca/roadsafety/tp2436/rs200405/menu.htm, as well as Road Safety's main menu for related vehicle restraints and safety studies and programs (e.g., air bags, booster seats for children, child seats on school buses).

Impaired drivers — Since the late 1980s, the percentage of fatally injured drivers who were tested and found with an alcohol concentration rate in their blood over the legal limit of 80 mg% has declined steadily, from approximately 40 per cent in the late 1980s to approximately 30 per cent in recent years (29.3 per cent in 2002). A similar trend can be seen in police reported charges for impaired driving offences, where the numbers dropped from over 111,000 in the early 1990s to 66,682 in 2002 (most recent data). It is unclear what percentage of these reductions are a result of greater public awareness, tougher penalties or changes in traffic enforcement levels and/or procedures. Addendum Table A4-8 shows this downward trend with a decrease in 2002 (most recent data). The role of drugs, such as cannabis, in collision causation dates back many years, although much less is known about the impact of this drug on collisions. Studies revealing that cannabinoids are the drugs most commonly found (after alcohol) in drivers who have been injured or killed in motor vehicle collisions, have increased concerns both nationally and internationally. Risks related to motor vehicle collisions increase in cases where both alcohol and cannabis are being used by drivers. For more information, please see "Impacts of cannabis on driving: An analysis of current evidence with an emphasis on Canadian data" at www.tc.gc.ca/roadsafety/tp/tp14179/menu.htm.

Commercial Vehicles — Another key RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles (i.e., heavy trucks and buses). Commercial vehicle drivers account for approximately 3.5 per cent of total licenced drivers between 1999 and 2002 (for details, visit www.tc.gc.ca/roadsafety/tp/tp3322/2003/page12.htm), although when compared to passenger vehicles, they generally account for much higher proportions of vehicle-kilometres travelled. From 1999 to 2003, collisions involving commercial vehicles accounted for approximately eight per cent of all road collisions and roughly 20 per cent of all road fatalities. In 2003, 576 fatalities resulted from collisions involving commercial vehicles, down from 581 fatalities in 2002. (For details, see Addendum tables A4-9A and A4-9B). Fatigue is recognized as a factor in transportation accidents. Consequently, a key initiative in recent years has been to revise and modernize the hours-of-service rules (under the consensus-based National Safety Code Standard #9), allowing trucking companies to better manage the fatigue factor in their operations. In December 2004, consensus was reached among key players in the Canadian trucking industry on safety rules for extra-provincial commercial vehicle operations. The Commercial Vehicle Drivers Hours of Service Regulations - Proposed Regulation are available at: <http://canadagazette.gc.ca/part1/2003/20030215/html/regle1-e.html>. Transport Canada has an ongoing research program on human performance and fatigue management. In 2004, a prototype fatigue management program for commercial drivers was developed to train drivers, dispatchers and company managers about ways to avoid fatigue and to get the best possible rest, at home or on the road. The program will undergo field trials under a 2003 joint research agreement between Transport Canada and Canadian provincial and U.S. authorities. For information on human performance research, see: <http://tcinfo/tdc/projects/hfactors/menu.htm>.

Addendum Table A4-10 shows that motor vehicle drivers accounted for about half of the 2003 fatalities (2,766), while passengers accounted for about a quarter (23.6 per cent). Although pedestrian fatalities, accounting for 13.7 per cent, increased again in 2003 (from 368 in 2002 to 379 fatalities), a recent study indicates that they decreased by 24.1 per cent over the 1992-2001 ten-year period (416 for this ten-year average). For details, visit www.tc.gc.ca/roadsafety/tp2436/rs200401/menu.htm. As Addendum Table A4-11 shows, of the vehicles involved in fatal collisions between 1999 and 2003, after automobiles, pickup trucks and larger trucks, were motorcycles (at a distant fourth place, accounting for about four per cent), bicycles (in fifth place), and all buses (at sixth place with about one per cent of the total). For more statistics on road safety system performance, visit www.tc.gc.ca/roadsafety/stats/menu.htm.

MARINE SAFETY

In 2004, the number of Canadian registered vessel accidents decreased by 11 per cent in the marine transportation sector with 431 accidents, compared with 485 in 2003 and 462.8 for the previous five-year average. Historically, the majority of marine accidents were shipping accidents and 2004 was no exception. There were 385 shipping accidents, 89 per cent of the total. However, this was a decrease of 11 per cent over 2003 and seven per cent over the previous five-year average. Accidents aboard ship made up the remainder of the 431 Canadian vessel accidents, falling to 46 in 2004 from 53 in 2003 and from the five-year average of 49.2. Of the 406 Canadian vessels involved in a shipping accident, which includes those where more than one vessel was involved (e.g., collision between vessels), fishing vessels represented the largest proportion, with 54 per cent, while commercial vessels followed with 35 per cent. There are approximately 36,700 registered/licenced vessels in Canada (excluding recreational); 64 per cent are fishing vessels, 25 per cent are commercial vessels under 15 gross registered tonnage (GRT), and 10 per cent are vessels over 15 GRT. For details on registered vessels, see: <http://www.tc.gc.ca/ShipRegistry/menu.asp?lang=e>. The accident rate, based on vessel-kilometres and available only for the commercial vessels of over 15 GRT, fell from 20.5 in 2003 to 17.9 in 2004.

The decrease in marine accidents in 2004 was not reflected in the number of lives lost on Canadian vessels, which increased from 19 in 2003 to 27 and was slightly higher than the previous five-year average (23), as there was a minor rise in the number of multi-casualty occurrences. There were 76 persons injured aboard Canadian vessels in 2004, comparable to both the 2003 total of 78 and the five-year average of 73. A record low of confirmed Canadian vessel losses was reported in 2004. The 17 losses represented less than half of the previous five-year average of 39. For more details, including provincial breakdown of occurrences, which take into account foreign vessels inside Canadian waters (not included in the above total occurrences and rates), as they are reported to the Transportation Safety Board, see Addendum tables A4-12 and A4-13.

One of the key commitments in *Marine Safety's Strategic Plan 2003 – 2010* is to achieve a certain level of safety targets by 2010, based on the 1998 – 2002 five-year averages for Canadian and foreign vessels. These safety targets are focused on the number of fatalities (20 per cent reduction of 33.8), injuries (30 per cent reduction of 80.2), and the Canadian and Foreign flag commercial accident rates (20 per cent reduction of 3.8 and 2.0 respectively). The 2004 figures, indicating early progress against the safety targets, show that there was an 85.8 per cent contribution towards the fatality reduction target, while injuries remained on a par with the 1998-2002 baseline figure and no progress was made. For more information on the plan and safety targets, visit www.tc.gc.ca/MarineSafety/tp13111/menu.htm.

Small Commercial Vessels (fishing and passenger) — The 51 small vessels (<=150 GRT) engaged in commercial operations in 2004, excluding fishing, represented 13 per cent of Canadian vessels involved in shipping accidents. Of these, 25 were engaged in passenger/charter activities. For more details, see Addendum Table A4-14. Canadian small vessels engaged in fishing activities have historically accounted for the highest proportion of the total vessels involved in shipping accidents (52 per cent in 2004). It should, however, be noted that accidents involving these vessels have declined significantly in the last decade, as shown in Addendum Table A4-15. Transport Canada continued to advance the regulatory and safety agenda for small commercial vessels in 2004 through the Marine Safety Small Vessel Monitoring and Inspection Program. Impending amendments to stability and construction standards, life-saving equipment and certification in the Small Vessel Regulations will further enhance safety. In 2004, Transport Canada developed and distributed a Small Commercial Vessel Safety Guide to holders of

small commercial vessel licences. In addition, the Canadian Marine Advisory Council (CMAC) Standing Committee on Fishing Vessel Safety, with government and industry representation, continued to address regulatory issues and operator certification and training.

International — As a member of the International Maritime Organization, Canada is required to report casualties for large commercial vessels. In 2004, there was one "very serious" casualty (collision with loss of lives) involving a Canadian vessel. There were eight less serious casualties for Canadian vessels. Accidents involving foreign-flag vessels in Canadian waters continued to decline in 2004 (to 49 from 64 in 2003), as shown in Addendum Table A4-12. Canada is a signatory to two Memoranda of Understanding (MOU) on Port State Control. In 2004, Canada continued to meet its obligation under the MOUs, with 1,173 foreign-flag vessels inspected. Improved targeting and special inspection programs for bulk carriers and tankers have helped improve the safety of foreign ships entering Canadian ports, and trends show that detentions have decreased from five years ago. Marine Safety publishes an annual report on the Port State Control Program that provides comprehensive data on inspections. In 2004, Canada hosted the Second Joint Ministerial Conference of the Paris and Tokyo Memoranda of Understanding (MOU) on Port State Control.

Marine Transportation Safety Management Systems — These systems have been in place since 1998 when they were implemented on a worldwide basis for tankers, bulk carriers and passenger ships in international trade. In 2002, these requirements were extended to almost all vessels trading internationally and are implemented through the Safety Management Regulations. To date, close to 70 Canadian vessels have obtained the required statutory certification; issued by classification societies on behalf of Transport Canada. In 2004, a monitoring program was well established as Transport Canada directly monitored seven of the audits carried out by these authorized organizations, and 26 audit reports were also reviewed. Transport Canada continues to support the voluntary adoption of Safety Management Systems by vessels operating in Canadian waters, and is actively reviewing the feasibility of implementing a Safety Management System for operators of Canadian domestic vessels (including small passenger vessels).

Transfer of Recreational Boating and other responsibilities — The responsibility for the Office of Boating Safety that administers a regulatory program for pleasure craft was transferred to Transport Canada from the Canadian Coast Guard, Department of Fisheries and Oceans in December 2003. In 2004, Transport Canada administered the operator competency program and worked in partnership with the Canadian Coast Guard Auxiliary to deliver boating safety education and awareness programs. The most current data available for recreational boating fatalities show that the 1996 – 2000 five-year average of 199 was higher than the 1991 – 1995 five-year average of 161 fatalities. It should be noted that there are approximately eight million recreational boaters in any given year. The Red Cross maintains comprehensive information on accidents and fatalities relating to pleasure craft at www.redcross.ca. Transfer of other safety related responsibilities from the Canadian Coast Guard include marine navigation services, pollution prevention and response, and navigable waters protection.

Further details on the above initiatives and other safety regimes under the Marine Safety Program can be found at <http://www.tc.gc.ca/marinesafety/menu.htm>.

AVIATION SAFETY

Preliminary 2004 Canadian-registered aircraft aviation accident figures showed a decrease of 17 per cent in comparison to 2003 figures, from 289 to 241 (excluding ultra-light aircraft). This is a 19 per cent decrease over the 1999-2003 five-year average of 296. The decline is largely attributable to a combined reduction in aerial work accidents, flight training accidents and recreational aviation accidents; however, this decline was partially offset by a 21 per cent increase in air taxi accidents. In 2004, fatal accidents declined (21 compared to 32 in 2003) and the total number of fatalities (34) was notably lower than 2003 (60) and the five-year average (52). The accident rates, based on total hours flown, itinerant movements and the number of aircraft registered, all confirm decreasing rates compared with 2003 and the previous five-year average.

The source of the data this year is the Transport Canada's Flight 2005 database: data that is extracted from the Transportation Safety Board of Canada (TSB) database and then aligned with the Canadian Aviation Regulations (CARs) and towards the Flight 2005 safety targets. The Addendum Table A4-16 provides more details on these occurrences and A4-17 further summarizes occurrences as they were reported to the TSB. Addendum Table A4-18 provides more detail on accident rates, and Addendum Table A4-19 provides a breakdown by province of aviation accidents, fatal accidents and fatalities based on the above data alignment.

The number of commercially operated aircraft involved in an accident (104 in 2004) accounted for 43.2 per cent of the total Canadian-registered aircraft accidents while the rest (140) were Recreational Aviation. Historically, airlines and commuter aircraft account for a small portion of involvement in these accidents. In 2004, Canadian-registered airliners were involved in three accidents. For the fourth year in the row, none of these three accidents and none of the four accidents involving commuter aircraft resulted in fatalities. Commuter aircraft accidents had a notable decline in 2004 from 10 in 2003 to four and declined over the 1999-2003 average of 8.6.

Approximately half (54.8 per cent) of the commercial aviation operations accidents in 2004 involved air taxis. This was consistent with the previous five years. While at 57 accidents, the 2004 figure was notably higher than that of 2003 when there were 47 accidents, it was on par with the previous five-year average of 59. In 2004, of the 57 accidents involving aircraft of this category, five (8.6 per cent) resulted in fatal accidents, causing 18 fatalities. There was a major decline in aerial work accidents (17), (accounting for 16.3 per cent of all 2004 commercial aviation operations) compared with 2003 accidents (41) and the 1999-2003 five-year average (39.8).

Recreational aviation is by far the largest contributor to the number of Canadian-registered aircraft accidents, accounting for 58 per cent of the 2004 total and 55 per cent for the 1999 – 2003 five-year average. In 2004, 140 recreational aircraft (excluding 34 basic and advanced ultra-lights) were involved in an accident, a decrease over the 2003 figure of 152. Of this total, 126 (90 per cent) involved aeroplanes and nine of these (7.1 per cent) were fatal, a decrease over 11.4 per cent 1999 – 2003 five-year average. Approximately one fifth of the total accidents were fatal for the basic and advanced ultra-light aircraft (6 out of 34 in 2004 and 8 out of 37 for the five-year average), making it the highest ratio among all aircraft involved in an accident. It should, however, be noted that this ratio may be influenced in good part by the reporting characteristics for the ultra-light aircraft category.

The number of reportable incidents reported to the Transportation Safety Board involving either a Canadian- or foreign-registered aircraft increased in 2004 to 906 from 834 in 2003. Risk of Collision/Loss of Separation (44 per cent increase over 2003), accounted for less than a quarter of the total reportable incidents (24.5 per cent in 2004), while Declared Emergency accounted for the highest percentage (30.5 per cent) among the categories of incidents. For more details on aviation incidents, please see Addendum Table A4-17.

Flight 2005 — The two main objectives of the Civil Aviation Safety Framework for Canada are: a continued improvement in the high level of aviation safety in Canada; and a high level of public confidence in the country's civil aviation program. Flight 2005 targeted a 25 per cent reduction of the five-year average of accidents and fatal accidents (378.20 accidents and 43.40 fatalities for 1995 – 1999 five-year averages) in all sectors by 2005, while a target of 90 per cent public confidence, measured by public opinion research, was set as the target for the second objective. In 2004, when compared to the 1995 – 1999 baseline, the 104.2 fewer accidents and 9.4 fewer fatalities is a reduction of 110 per cent, exceeding the targets for both accidents and fatalities. A March 2004 EKOS survey, with questions related to flight safety (and excluding questions regarding security) reported a public confidence rating of 98 per cent, and a high confidence rating of 67 per cent, an increase of seven per cent in high confidence over 2002.¹ For more information on Flight 2005, visit <http://www.tc.gc.ca/civilaviation/menu.htm>.

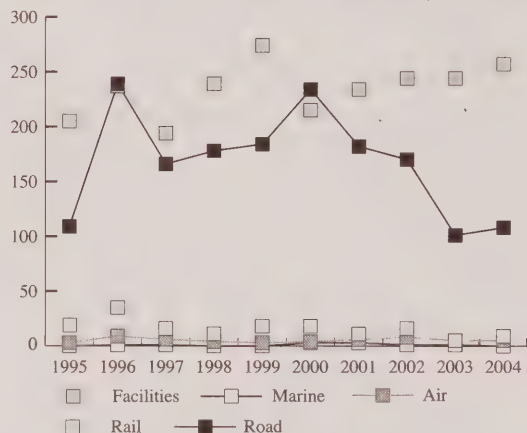
Safety Management Systems — Implementing Safety Management Systems (SMS) is the cornerstone of the evolving directions of Flight 2005 framework for improving the safety performance within the Canadian Civil Aviation Industry. To date, more than 500 delegated officers have been trained, with SMS training generally well received. In addition, SMS pilot projects have proven to reduce costs through the proactive management of risks. Transport Canada pre-published the first set of Safety Management System Regulations for aviation organizations in the Canada Gazette in March 2005. These regulations will provide aviation organizations with the flexibility to decide how to meet the safety requirements, allowing for innovation while improving safety. A briefing campaign to prepare the civil aviation industry for SMS implementation is being incorporated into regional SMS implementation plans. For more information on SMS, please visit: <http://tcinfo/civilaviation/SMS/menu.htm>.

Business Aircraft-Operational Safety Standards System (BA-OSSS) — Industry, through the Canadian Business Aviation Association (CBAA), has also been given flexibility through the BA-OSSS to develop a safety system suited to their individual operations while not compromising safety. These aviation services have historically experienced an extremely low accident rate, averaging less than one accident per year for the last six years. (For details, refer to Private Operator Passenger Transportation operations in the Addendum Table A4-16). The BA-OSSS is made possible through a regulatory approach of performance-based rules linked with a safety management system. The CBAA is currently responsible for issuing operating certificates to these operators. For more information on the Flight 2005 and related initiatives, visit <http://www.tc.gc.ca/civilaviation/menu.htm>.

TRANSPORTATION OF DANGEROUS GOODS

The number of reportable accidents involving the transportation of dangerous goods was up slightly in 2004 (379) from 2003 (356). However, few accidents involving dangerous goods are actually caused by the goods themselves. Figure 4-3 shows that in recent years most reportable accidents involving dangerous goods did not occur during transport, but rather during the loading or unloading phase at transportation facilities. The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2004, 11 fatalities and 35 injuries resulted from accidents involving dangerous goods. Of these, 12 injuries and one fatality resulted from the dangerous goods themselves.

FIGURE 4-3: TDG REPORTABLE ACCIDENTS BY MODE AND AT TRANSPORTATION FACILITIES, 1995 – 2004



Source: Transport Canada, Dangerous Goods Accident Information System

1 Perceptions of Air Travel Safety and Security in Canada: Wave III EKOS Research Associates, March 2004. Most recent polling data suggest that a high confidence rating has reached the 70 per cent mark further substantiating this increasing change.

There are several ways to measure freight and freight movement: the number of shipments, the weight of the shipment (tonne), the weight and distance of the shipment movement (tonne-kilometre), and the distance over which the shipment traveled (vehicle-kilometre). The measurement method used depends on the end need. There are approximately 30 million shipments of dangerous goods in Canada every year that are subject to the TDG Regulations. Almost all (99.99 per cent) arrive safely at their destinations. As Figure 4-3 shows, among the four modes of transport, most reportable accidents (89 per cent) occur on road. It must be kept in mind, however, that 93 per cent of dangerous goods are shipped using road transportation. When tonnage is used as the unit of measurement of dangerous goods transported in Canada, more than 46 per cent of the volume is transported by road while 39 per cent is transported by rail. The TDG program does not cover dangerous goods transported in bulk on ships or by pipeline. For more information on TDG exposure data, see the October 2004 Transport Canada report entitled "The Movement and Handling of Dangerous Goods in Canada for the Year 2002" (to obtain a copy contact: provencherm@tc.gc.ca). For details on the number of reportable accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-20A to A4-20C.

Review of the TDG Act — In 2004, the focus of the review was to collect and analyze information aimed at identifying potential safety enhancements to the Act as well as emerging security issues. Public consultations were conducted across the country. Analysis of the issues, alternatives and solutions continues until spring 2005.

Tank Car Thermal Protection Integrity — As a result of the Tank Car Thermal Protection Integrity project, propane tank fire tests and high-temperature steel tests were performed to provide data to validate a 3-D computer model for tank car defects. In 2004, US DOT (Federal Railroad Administration) inspectors were trained in the use of infrared camera technology. Transport Canada inspectors removed tank cars from service due to non-compliance with the thermal protection standard. Meetings and discussions were held with Canadian and United States government and industry officials to plan for fire tests of such tank cars with defective protection systems.

Highway tanker truck stability tests — A research program at the National Research Council has resulted in the testing of approximately 20 different tanker trucks carrying dangerous goods on a tilt-table. A rollover computer model has been developed and validated with the tilt-table data. A user-friendly computer model is envisaged, and work will continue in the development of a rollover threshold standard for highway tanker trucks transporting dangerous goods.

The National TDG Program — This program is delivered across Canada in partnership with provinces and territories under terms defined in Memoranda of Agreement between the federal Minister of Transport and provincial/territorial ministers. In 2004, such an Agreement was concluded with the Province of British Columbia. During the year, Transport Canada held training sessions throughout the country on the TDG Regulations offered to federal, provincial and territorial inspectors.

International harmonization — Transport Canada's aim to harmonize the regulatory requirements across jurisdictions remains an important objective. Transport Canada's TDG is the head of the Canadian delegation to the United Nations (UN) Sub-committee of Experts on the Transport of Dangerous Goods, and acts as the Vice-Chairman of the Sub-committee. Transport Canada's TDG acts as technical advisor to the Canadian representative to the ICAO DGP and the IMO DSC. The impact test for portable tanks that Canada developed was adopted by the UN Sub-committee for the 14th edition of the *Recommendations on the Transport of Dangerous Goods, Modal Regulations* published by the UN.

Emergency Response Guidebook — The Canadian Transport Emergency Centre (CANUTEC) assists personnel in handling dangerous goods emergencies 24 hours a day, seven days a week. Transport Canada's CANUTEC works cooperatively with the United States and Mexico under a NAFTA initiative to develop the "Emergency Response Guidebook" that provides harmonized emergency response procedures. This guidebook is updated every four years, and in 2004 it was distributed to fire departments, police departments and ambulance services. With one book provided for each response vehicle, more than 2,000,000 copies have been distributed throughout the Americas. The guidebook is also available to other countries and has been translated in 17 different languages. For more information on these initiatives, including the review of the *TDG Act*, 1992, visit www.tc.gc.ca/tdg/menu.htm.

TRANSPORTATION SECURITY

In 2004, the security of the national transportation system continued to be strengthened through a number of security enhancements and initiatives. A key component of this is the National Security Policy. This is a strategic framework and action plan designed to ensure that the Government of Canada can prepare for and respond to current and future threats to the security of the transportation system. Through this national policy, the Government of Canada reaffirmed its commitment to ensuring a safe and secure society and to meeting Canada's global responsibilities. The National Security Policy contains three transportation-related deliverables: a six-point plan for marine security; enhancement of aviation security, including air cargo; and improvement and extension of security background check requirements for transportation workers.

As a result of the National Security Policy and a number of programs and activities undertaken by Transport Canada, public confidence in transportation security in all modes has increased. Results of recent public opinion surveys are presented below, followed by an overview of key transportation security initiatives by mode.

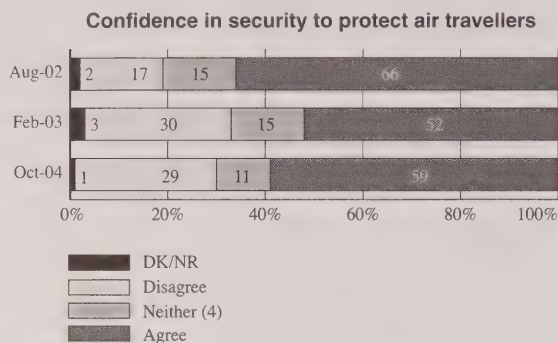
PUBLIC CONFIDENCE

Since September 11, 2001, public confidence in Canada's transportation security regime, particularly aviation security, has increased:

- A majority of Canadians (61 per cent) rated the safety and security of the air mode of transportation as "high".²
- The percentage of Canadians, who agree that there are sufficient security procedures in place to protect air travellers, even if they cannot see them, increased by five percentage points from 2002 to 71 per cent. Recent polling suggests that this percentage has further increased to 76 per cent.³
- The percentage of travellers who feel that passenger screening is "very thorough" has increased from 34 per cent in 2002 to 43 per cent in 2004 (see Figure 4-5).⁴
- Over half of Canadians (53 per cent) now agree that the federal government has done everything reasonable to ensure the safety of air travel in Canada.⁵
- The majority of Canadians (77 per cent) have a moderate and high confidence in the federal government's ability to prevent terrorist attacks against Canada's airports.⁶

FIGURE 4-4: CONFIDENCE IN SECURITY TO PROTECT AIR TRAVELLERS

"Even if I cannot see them, I am confident there are sufficient security procedures in place to protect air travellers"

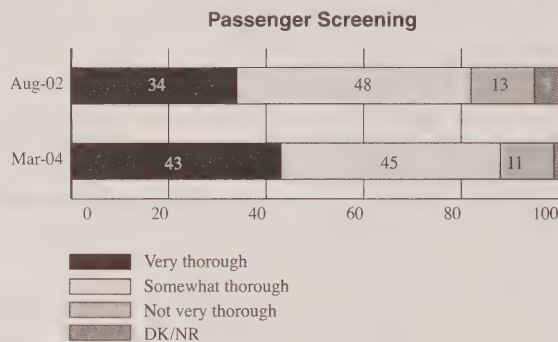


Note: Margin of error: +/- 3.1%

Source: EKOS Research Associates Inc

FIGURE 4-5: PASSENGER SCREENING

"Thinking of the last time you travelled by air, how would you rate the thoroughness of the passenger screening? Would you say that it was ...?"



Note: Margin of error: +/- 3.1%

Source: EKOS Research Associates Inc

2 Rethinking Government 2004 – Wave 4 Report, EKOS Research Associates (February 2005).

3 Perceptions of Air Travel Safety and Security in Canada: Wave III, EKOS Research Associates (March 2004).

4 Perceptions of Air Travel Safety and Security in Canada: Wave III, EKOS Research Associates (March 2004).

5 Public Security Monitor 2004 – Wave 5: Looming Challenges – Privacy, Risk, and Canada-U.S. Relations, EKOS Research Associates (October 2004).

6 Public Security Monitor 2004 – Wave 5: Looming Challenges – Privacy, Risk, and Canada-U.S. Relations, EKOS Research Associates (October 2004).

AVIATION SECURITY

In 2004, Transport Canada continued to strengthen aviation security, working with other federal government departments, other countries and international organizations, industry stakeholders and labour organizations.

Important initiatives in 2004 included:

- legislative and regulatory enhancements;
- programs such as the Cabin Security Enhancement Contribution Program and the Aviation Transportation Security Clearance Program;
- awareness campaigns and industry training initiatives; and
- international initiatives.

LEGISLATIVE AND REGULATORY ENHANCEMENTS

To augment the rigorous security standards already in place, Transport Canada introduced new legislation and regulations.

A key legislative development was the *Public Safety Act*, which strengthens and clarifies aviation security and safety provisions in the *Aeronautics Act*, which received Royal Assent on May 6. The *Act* is designed to further enhance aviation security by increasing Canada's capacity to prevent terrorist attacks, protect citizens and respond quickly should a threat be identified. For instance, it gives government departments the ability to request passenger information in order to stop individuals who pose a threat to transportation security from boarding a flight.

A number of regulations were also amended or introduced in 2004:

- The development of a regulatory framework for a new airport-screening program for non-passengers. The new screening program is implemented by the Canadian Air Transport Security Authority (CATSA). Under the program, non-passengers — such as airline personnel, airport employees, refuellers, flight crews, caterers, aircraft groomers, maintenance personnel and ground handlers — are subject to random screening when they enter restricted areas at major airports.
- Amendment of the Canadian Air Transport Security Authority Aerodrome Designation Regulations. The amendments extend security screening by CATSA to Mont-Tremblant International Airport in Quebec and Red Deer Regional Airport in Alberta. Security screening at Mont-Tremblant International opens up new tourism opportunities by allowing direct flights from untapped American markets. Security screening at

Red Deer Regional offers this growing community and its visitors more opportunity to fly to national and international metropolitan centres.

- The development of new requirements for the installation and operation of advanced explosives detection system equipment at airports.
- The development and implementation of Special Location Security Measures. These are site-specific regulations aimed at reducing security risks, if any, associated with new routes between Canada and international locations. Transport Canada began this initiative in cooperation with other government departments.
- Operational trials of different policing models. This came out of a 2003 assessment of aviation security policing requirements, whereby Transport Canada would introduce enhanced requirements at other airports, using a risk-based approach. Transport Canada laid the groundwork for these trials, which, in conjunction with stakeholder consultation, will help shape the enhanced requirements.
- Enhancements to aviation security training requirements for crew members. The requirements are designed to help identify and address potential threats to civil aviation, including hijacking and bomb threats, and outlines processes around the presence of aircraft protective officers.

CABIN SECURITY ENHANCEMENT CONTRIBUTION PROGRAM (CSECP)

Following the events of September 11, 2001, new regulations to reinforce cockpit doors on Canadian-registered aircraft were introduced to provide further protection to flight crews and Canadian air travellers. The reinforced doors will prevent forcible intrusions into flight crew compartments by would-be hijackers and, in turn, increase public confidence in Canada's civil aviation system. Transport Canada's Cabin Security Enhancement Contribution Program (CSECP) provided financial assistance to Canadian operators required to modify aircraft to comply with the regulations. There were 28 operators with 486 eligible passenger and cargo aircraft in the program. The CSECP officially ended on March 31, 2004.

AVIATION TRANSPORTATION SECURITY CLEARANCE PROGRAM

In 2004, Transport Canada continued to implement the Aviation Transportation Security Clearance Program, which is aimed at reducing the risk of unauthorized persons entering restricted areas of an airport. This program uses the Transport Canada Automated Fingerprint Identification

System (TCAFIS) to modernize and speed up processing times for aviation transportation security clearances, thus making airport security more effective and efficient. Transport Canada won the 2004 Government Technology Exhibition in Canada's (GTEC) Award (gold) for this initiative in the Information Management Excellence in the Public Sector category. In addition, Transport Canada was selected as a semi-finalist for the Webber Seavey Award, which is sponsored jointly by the International Association of Chiefs of Police (IACP) and Motorola. This is the most prestigious award within the international police community and is presented annually to law enforcement organizations worldwide to recognize the fight against terrorism and dedication to the quality of life in local communities.

AWARENESS CAMPAIGNS AND INDUSTRY TRAINING INITIATIVES

Transport Canada conducted a number of awareness campaigns in 2004 aimed at airport employees and air carriers. Campaigns were carried out in cooperation with the Canadian Aviation Security Awareness Advisory Committee (CASAAC), which includes Transport Canada, Canadian Air Transport Security Authority (CATSA), the Canadian Airports Council (CAC), the Air Transport Association of Canada (ATAC) and NAV CANADA.

One of the key awareness campaigns in 2004 was the Air Cargo Security Awareness Campaign. Through this campaign, Transport Canada distributed:

- 60,000 brochures to air carrier employees and 20,000 posters to air carriers, entitled "Securing Our Future Together"; and
- 6,000 security awareness posters to air carrier and freight forwarders, entitled "Report All Suspicious Activity."

In 2004, Transport Canada also updated the "Transport Canada Cargo Screening Training Program" and video, aimed at air cargo handlers, air carrier representatives and the travelling public. Developed through a joint working group with industry representatives, the program was well received by the air cargo industry and industry associations.

Phase I of the Air Carrier Security Training Project was completed in 2004, and included enhancements to aviation security requirements for crew members and other persons conducting searches on aircraft, food containers, and aircraft stores. In parallel, and in consultation with industry stakeholders, Transport Canada developed guidance material to assist air carriers in the development of their aviation security operational procedures and training programs for crew members.

INTERNATIONAL INITIATIVES

Transport Canada cooperates with a number of countries and international agencies to enhance aviation security and align Canadian and international standards. In 2004, Transport Canada continued to work with such international agencies as the G8, the International Civil Aviation Organization (ICAO), the European Civil Aviation Conference (ECAC) and the U.S. Department of Homeland Security and the U.S. Department of Transportation.

Key international initiatives included:

- The Secure and Facilitated Travel Initiative (SAFTI). This was agreed to by G8 nations in June 2004. Its objective is to deter threats, reduce costs, and help ensure safe and efficient movement of passengers and cargo, thereby benefitting international commerce while enhancing security. In addition to SAFTI, a 24/7 aviation point of contact network was created to address imminent threats, and methodologies were prepared for assessing the vulnerability of G8 airports to the Man-Portable Air Defence Systems (MANPADS) threat.
- The ICAO's Universal Security Audit Programme (USAP). This program is designed to promote aviation security worldwide by evaluating and assisting its 188 Member States in correcting security deficiencies. Transport Canada co-chairs this initiative and has contributed inspectors to support it. Because of its recognized expertise, Transport Canada also trains inspectors worldwide to work on inspection teams. These inspection teams help identify potential deficiencies in security oversight systems of member countries and make recommendations to resolve any deficiencies.
- Transport Canada's participation and chairing of the ICAO Aviation Security Panel and the 15th meeting of the Ad Hoc Group of Specialists for Detection of Explosives. Transport Canada also actively participated on the ECAC Technical Task Force for aviation security. Participation in these initiatives is aimed at enhancing explosives detection capabilities and the alignment of Canadian and international standards.
- Continued cooperation with the U.S. departments of Homeland Security and Transportation. The goals of this cooperation are to jointly manage aviation security issues and align regulatory requirements. Transport Canada also continued to participate in a Counter Terrorism Bilateral agreement with the U.S. Department of Homeland Security.

MARINE SECURITY

Throughout 2004, Transport Canada made significant progress toward enhancing marine security.

In order to put the International Ship and Port Facility Security (ISPS) Code into effect in Canada, and to enable Canada to meet its international obligations, Transport Canada developed Marine Transportation Security Regulations (MTSRs) in consultation with the Canadian marine sector. The MTSRs came into force on July 1, 2004.

The Canadian regulations apply to those vessels and marine facilities covered by the ISPS Code — certain vessels of 500 gross tonnes or more engaged in international voyages, and the marine facilities that serve them — as well as to certain domestic vessels between 100 and 499 gross tonnes that engage in international voyages or trade in the Great Lakes–St. Lawrence Seaway System.

To date, all affected Canadian-flagged vessels and Canadian marine facilities have been issued appropriate certificates of compliance. All compliant facilities are now listed on both the International Maritime Organization (IMO) Web site and Transport Canada's marine security Web site.

Marine Security Operation Centres (MSOCs) have been established on the east and west coasts (i.e., in Halifax, Nova Scotia, and Victoria, British Columbia). The MSOCs actively target vessels to ensure compliance with the ISPS Code and to help other government departments in maritime domain awareness. They are managed by the Department of National Defence with Transport Canada's active support.

As a result of the promulgation of the *Public Safety Act*, the Government of Canada was able to announce a \$115 million Marine Security Contribution Program to help ports and port facilities make security enhancements associated with meeting the ISPS Code. Over the next three years, this program will help fund projects for such initiatives as the purchase of surveillance equipment, including cameras and closed-circuit TV systems; improvements to dockside and perimeter security and access control, such as fencing, gates, signage and lighting; and other port security enhancements, such as security guards and arrangements with local police departments.

Transport Canada also began consultations on the Marine Facilities Restricted Area Access Clearance Program. This proposed program is designed to prevent unlawful acts of interference with the marine transportation system by requiring background security checks for port workers who need to access certain

restricted areas or who occupy certain designated positions at marine facilities. This program would build on the experience gained from Canada's program of background security checks for airport personnel introduced in October 1985. It is expected that this program will be in place as early as possible in 2005.

For more information on how Transport Canada is working to enhance marine security in Canada, visit http://tcinfo/vigilance/en/security_emergency_preparedness/marine/menu.htm.

SURFACE SECURITY

RAIL SECURITY

Following the March 2004 train bombings in Madrid, Spain, Transport Canada stepped up its efforts related to rail security. In cooperation with the Railway Association of Canada, Transport Canada began a comprehensive review of rail security and the current self-regulatory regime. It also organized nationwide teleconferences with federal railway security officials as well as the major mass transit systems, which do not fall under federal jurisdiction. The teleconferences promoted best practices and shared learning experiences about security programs. In addition, a Railway Intelligence Forum was held with CN, CPR and VIA Rail to discuss security concerns.

Transport Canada also cooperated with the U.S. Transportation Security Administration to further enhance rail security by sharing information on new security programs and different types of technologies being deployed.

INTERMODAL CARGO SECURITY

The security of containerized cargo moving intermodally and internationally is becoming a major transportation security concern internationally. This is expected to continue, and Canada needs to play an appropriate role in ensuring the security of this aspect of the national transportation system.

In 2004, Transport Canada, Public Safety and Emergency Preparedness Canada, and Canada Border Services Agency continued to collaborate with the provincial governments of Quebec and Nova Scotia and U.S. Working Group members to develop a Canada–U.S. Cargo Security Project. This project would use technology to track the movement of cargo containers and detect any security breaches to the containers as they move through the transportation system.

CRITICAL INFRASTRUCTURE PROTECTION AND EMERGENCY PREPAREDNESS

NATIONAL CRITICAL INFRASTRUCTURE ASSURANCE PROGRAM (NCIAP)

Canada and Canadians depend on a network of physical and computer-based infrastructures that provide essential energy, transportation and communications, as well as safety, financial, health and emergency response services. These infrastructures — collectively referred to as National Critical Infrastructure, or NCI — are essential to the health, safety, security and economic well-being of Canadians and to the effective functioning of governments. Under the National Critical Infrastructure Assurance Program, Transport Canada and 11 other federal government departments strive to:

- achieve an effective national emergency management system;
- enhance protection and survivability of critical infrastructure; and
- reduce loss of life and property resulting from major disasters, accidents or intentional acts.

Transport Canada's role is to help protect Canada's key transportation facilities, services, assets and information. In 2004, Transport Canada continued to contribute to critical infrastructure activities through awareness sessions with stakeholders and other provinces. Transport Canada worked with New Brunswick in a federal-provincial sponsorship to develop a Critical Infrastructure Assurance Program that could be used by other provinces. Transport Canada provided input to threat, risk and vulnerability assessments on cross-sectoral infrastructure in order to determine common binational research and development opportunities, through workshops held in Canada and the United States.

EMERGENCY PREPAREDNESS ACTIVITIES

Transport Canada's legislative civil emergency preparedness roles and responsibilities include participation in NATO activities. As the Canadian delegate, Transport Canada provided technical expertise at meetings of the Planning Boards and Committees (PB&C) in 2004. One of the key issues was harmonization of the Aviation and Marine War Risk Insurance Schemes across NATO member states. The issues and recommendations considered at the Senior Civil Emergency Planning Committee are often those that have benefitted from the contributions made by representatives of the Canadian government, including members of Transport Canada, who regularly attend meetings of the RB&C.

Transport Canada is also involved in supporting other government departments in emergency preparedness initiatives, such as the Pandemic Influenza Preparedness Strategy. Although this initiative is led by Health Canada — Public Health Agency (PHA), Transport Canada has committed support functions to help the PHA in the event of a health outbreak. In early 2004, the PHA released the Canadian Pandemic Influenza Plan, which was developed collaboratively with the provinces and territories. The Plan maps out how Canada would prepare for, and respond to, a pandemic influenza outbreak. It created a framework that guides the actions of all levels of government and includes an emergency response plan, as well as guidelines and checklists to help all jurisdictions with their emergency planning.

TRANSPORTATION OF DANGEROUS GOODS

Transport Canada began implementing the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project for the transportation of dangerous goods in 2002. The goal of this Project is to secure access to trained industrial emergency response teams that, when requested by authorities, are capable of helping first responders handle dangerous goods used as CBRN agents in terrorism situations in Canada.

The Project is based on the network of existing responders that has been developed over the years under the *Transportation of Dangerous Goods Act's* Emergency Response Assistance Plan requirements. These responders routinely provide assistance to first responders in handling dangerous goods involved in transportation accidents and are therefore appropriately trained and equipped.

In 2004, Transport Canada organized two-day CBRN awareness sessions for industry responders in Halifax, Toronto, Edmonton, Montreal and Vancouver. Topics included awareness of chemical, biological and radiological materials, as well as overview and recognition of CBRN incidents, incident scene attendance, and the respective roles and responsibilities of the responders and the authorities in charge at the scene.

Transport Canada continued to establish contacts with various key federal and certain provincial departments to develop linkages and/or partnerships to ensure successful implementation of the CBRN Response Project.

TRANSPORTATION AND THE ENVIRONMENT

5

Levels of green house gas emissions from freight transportation have increased, however, emissions grew at lower rate than the increase in activity level.

OVERVIEW

Although transportation provides many economic and social benefits, the movement of people and goods can have significant environmental consequences, which in turn have social and economic repercussions. Sustainable transportation calls for ensuring that the environment is considered along with economic and social factors in transportation decision-making. Environmental impacts from transportation include air, water and noise pollution, greenhouse gas (GHG) emissions, and the loss of agricultural land and wildlife habitat. A range of transportation activities contributes to these pressures, including: constructing and financing infrastructure; operating airports and ports; operating and maintaining the road system; producing, operating, maintaining and disposing of vehicles; and supplying of energy and fuel.

The different sectors that make up Canada's transportation system are under the jurisdiction of all three levels of government. The federal government has jurisdiction over most international and interprovincial transportation, while provincial governments are responsible for intraprovincial transportation. Municipalities largely govern urban transportation systems. Coordination of these different levels is conducted by the Council of Ministers Responsible for Transportation and Highway Safety.

TRANSPORT CANADA'S ROLE

Transport Canada's mandate is to provide the best transportation system for Canada and Canadians — one that is safe and secure, efficient, affordable, integrated and environmentally friendly. The authority of the Minister of Transport Canada to affect environmental issues is through various Acts, including the *Navigable Waters Protection Act*, *Arctic Waters Pollution Prevention Act*, *Canada Shipping Act*, *Motor Vehicle Fuel Consumption Standards Act* and *Transportation of Dangerous Goods Act*. In carrying out its mandate, Transport Canada works with other federal departments to promote sustainable transportation. Significantly, it collaborates with Natural Resources Canada to promote the production and use of alternative fuels and to introduce fuel efficiency technologies. Air emissions from the on-road and off-road sectors are regulated by Environment Canada.

In order to set a positive example and to reduce its own environmental impacts, Transport Canada has increasingly been integrating environmental considerations into daily planning and decision-making. To achieve this objective, Transport Canada has adopted an Environmental Management System, or EMS, an approach that has been used by governments and private companies around the world to ensure environmentally sound practices and to minimize liability.

ENVIRONMENTAL TRENDS IN TRANSPORTATION

Transportation is an important contributor to Canada's economy. The benefits of transportation systems should be weighed against their impacts on the environment. An obvious impact, for example, results from using energy to propel our vehicles, whether on land, on water or in the air. The challenge is to reduce the transportation-related impacts on the environment while still achieving the objectives of mobility and access that transportation systems afford.

This section will illustrate the most recent trends in both GHG and criteria air contaminants (CAC) emissions related to transportation. It will show that despite growth in transportation services, improvements have been made in particular areas while challenges remain in others.

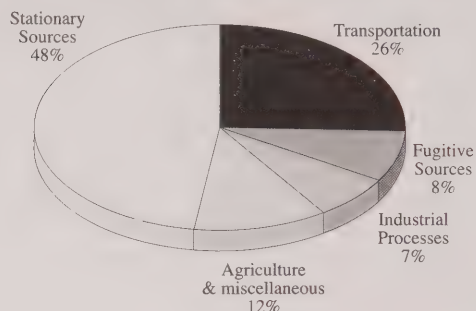
CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

Climate change is a major challenge for transportation, as it is for all other sectors of the Canadian economy. Climate change is caused by increases in GHG emissions, which may significantly alter weather and climate patterns around the world, thus increasing the frequency of severe weather events and enhancing the risk of weather-related disasters. However, attempts to reduce GHG emissions in the transportation sector must recognize that transportation is a derived demand and that mobility makes an important contribution to the Canadian economy.

Total Canadian GHG emissions in 2002 were 731 megatonnes (Mt), a 2.1 per cent increase from 2001. Figure 5-1 shows that the transportation component of total emissions was 26 per cent, or 190 Mt. This is up slightly from the 2001 level of 187 Mt (also 26 per cent of total emissions). On-road emissions accounted for 72 per cent of total transportation emissions, domestic air-related emissions accounted for seven per cent, and rail and domestic marine both accounted for three per cent. The remaining transportation-related emissions, off-road and pipelines, accounted for a combined 15 per cent of total GHG emissions in 2002.

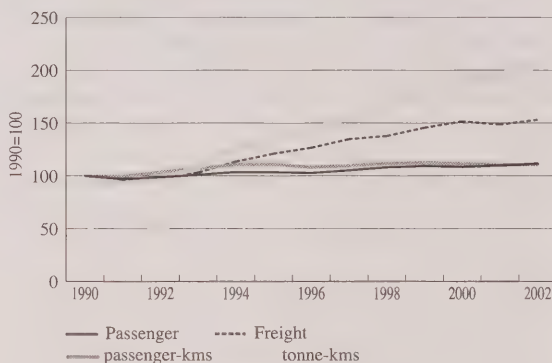
Figure 5-2 shows the trends from 1990 to 2002 in on-road GHG emissions and activity levels from the passenger and freight sectors (1990 levels indexed to 100). Emissions from on-road passenger travel increased by roughly 12 per cent over this period, from 69 to 77 Mt. Activity levels measured by passenger-kilometres increased by the same amount as tracked GHG emission levels throughout this period.

FIGURE 5-1: TOTAL GHG EMISSIONS BY SECTOR, 2002



Source: Canada's Greenhouse Gas Inventory, 1990-2002, Environment Canada

FIGURE 5-2: TRENDS IN GHG EMISSIONS AND TRANSPORTATION ACTIVITY, 1990 – 2002

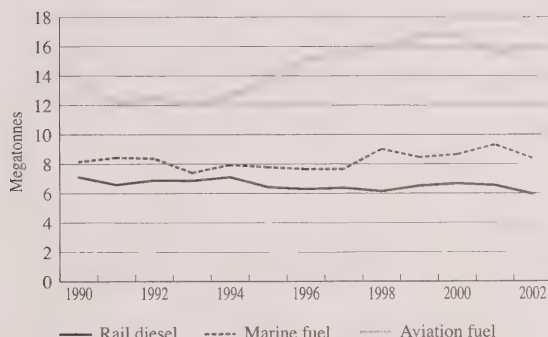


Source: Energy Use Handbook: June 2004; NRCan, OEE

By contrast, Figure 5-2 also shows that GHG emission levels for on-road freight increased by 53 per cent, from 33 to 51 Mt, from 1990 to 2002. While this represents a significant increase in GHG emissions compared with passenger emissions, it should be viewed within the context of the large increase in freight activity levels over this period, when freight activity, measured in tonne-kilometres, more than doubled (103 per cent). This indicates that while freight is accounting for increasing levels of GHG compared with passenger travel, it is also becoming more efficient by decoupling GHG emissions from activity to a greater extent than on-road passenger travel.

Figure 5-3 shows the trends in GHG emissions from the rail, aviation and marine sectors for the 1990 – 2002 period. After the on-road sectors, the aviation sector had the largest share of transportation sector GHG emissions, with 16 Mt in 2002. Since 1990, aviation GHG emissions have increased by 18 per cent. This increase occurred while airlines were employing more fuel-efficient aircraft as well as larger aircraft with increased load factors. At eight Mt, the marine sector was the next largest contributor to GHG emissions; overall, marine emissions have been relatively constant over this period, with only a three per cent increase. The rail sector was responsible for six Mt in 2002, and unlike the other sectors, has had declining GHG emissions since 1990 (16 per cent reduction). This is especially impressive considering that rail freight activity levels have increased by 28 per cent since 1990. As reported in last year's Annual Report, this could be due to a combination of factors, such as technological improvements to locomotives during the late 1990s, the adoption of new operating practices, and the rationalization of Canadian National and Canadian Pacific's fleets.

FIGURE 5-3: RAIL, AVIATION, MARINE GHG EMISSIONS, 1990 – 2002



Source: Energy Use Handbook: June 2004; NRCan, OEE

AIR POLLUTION EMISSIONS

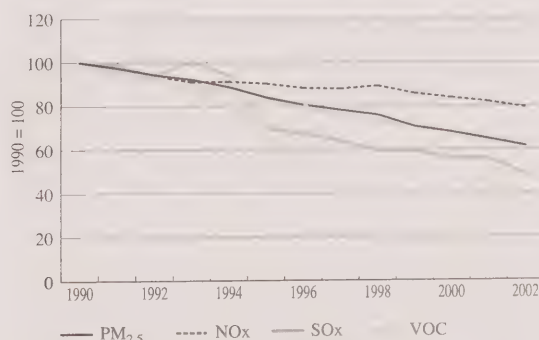
Roughly eight out of ten Canadians live in urban areas. This, along with the associated concentrations of economic activity in urban areas, is putting pressure on the air, land and water. This section examines trends in transportation-related air emissions.

Air pollution emissions represent a significant environmental and health issue for Canadians. These emissions include pollutants such as nitrogen oxides (NOx) and sulphur oxides (SOx); volatile organic compounds (VOC) such as gasoline fumes and solvents; and particulate matter (PM₁₀ or PM_{2.5}). They are emitted from a wide range of sources, including the transportation

system. Perhaps the most visible impact is urban smog, which has been linked to several thousand premature deaths in Canada each year, as well as to numerous health-related problems. Smog is composed of two main ingredients: ground-level ozone and particulate matter. Ground-level ozone is created when NOx and VOC react together under specific conditions, such as calm, sunny days. NOx, along with SOx, are also the components of acid precipitation. Particulate matter is produced during the combustion of fossil fuels, including motor vehicles, industrial processes and power plants. Dust from paved and unpaved roads and road construction as well as forest fires are also major sources of particulate matter.

The transportation sector as a whole accounts for roughly 60 per cent of total Canadian NOx emissions, 26 per cent of VOC emissions, seven per cent of fine PM emissions and four per cent of SOx emissions. It should be noted that fuels vary considerably in terms of the emissions to which they give rise. For example, on-road and off-road diesel engines account for roughly 75 per cent of PM_{2.5} emissions (off-road diesel use alone accounts for 53 per cent) and 58 per cent of NOx emissions. Gasoline engines, on the other hand, account for 86 per cent of transportation-related VOC emissions. Figure 5-4 illustrates the trends in transportation-related PM_{2.5}, SOx, NOx and VOC emissions (1990 trends indexed to 100). Since 1990, the trend in all of these emissions has been downward, thanks largely to regulatory changes introduced by the federal government to reduce the health impacts of smog and the impacts of acid rain.

FIGURE 5-4: AIR POLLUTION EMISSIONS FROM THE TRANSPORTATION SECTOR, 1990 – 2002



Source: Environment Canada: 2000 Criteria Air Contaminant Inventory

Congestion affects the environment through the additional time required for commuting or for goods movement and the increased time spent by vehicles idling in heavily congested areas. The consequences include increased environmental, social and economic costs, such as foregone paid work, lost time and productivity, wasted fuel, increased GHG emissions, air and noise pollution, and increased stress. Canada relies heavily on exports and imports, especially to and from the United States. This movement of goods and people requires reliable and timely traffic flows at border points, as well as the efficient movement on our highways, rail yards, airports and ports. The costs of congestion have been estimated to be in the billions of dollars annually for the Canadian economy.

The design of low-density urban areas can have an impact on the environment through increased infrastructure needs, including investment in roads. The benefits to Canadians of such development can include lower housing costs and greater access to green space. However, so-called "urban sprawl" also means longer commuting times with the associated increase in harmful emissions.

FEDERAL INITIATIVES

Federal government departments introduced a number of new initiatives in 2004, many focussed on Canada's urban transportation areas. These initiatives targetted passenger and freight transportation as well as other transportation modes such as air and water transportation. These initiatives are highlighted below.

THE ONE-TONNE CHALLENGE

Launched on March 26, 2004, the One-Tonne Challenge is a three-year, \$45 million social marketing campaign that provides Canadians with information and tools to help them take action to reduce their own GHG emissions by one tonne — at home, at the office and when travelling. Complementary initiatives under the program include partnerships with various groups and communities such as educators and youth to raise awareness of the Challenge and engage Canadians to take action. An \$8 million print and television advertising campaign was launched in December 2004.

ANNOUNCEMENT OF HYDROGEN HIGHWAY

As an important part of the \$215-million initiative to stimulate the development and commercialization of hydrogen and fuel cell technologies, the federal government announced the development of the first Canadian Hydrogen Highway on April 1, 2004. Targetted for full implementation by the Whistler 2010 Olympics, the Hydrogen Highway will attract international attention and be a showcase of sustainable transportation, creating a highway with hydrogen fuelling infrastructure that will allow visitors to travel via fuel cell vehicles between the Vancouver Airport and Whistler for the 2010 Olympics.

SUSTAINABLE DEVELOPMENT STRATEGY

On February 16, 2004, Transport Canada tabled its third Sustainable Development Strategy in Parliament. The strategy defines seven strategic challenges and 32 specific commitments for action over the next three years (2004 – 2006). In 2004, Transport Canada wrapped up the 2001 – 2003 Sustainable Development Strategy and initiated the implementation of the 2004 – 2006 strategy. The department reports on its progress annually within the Departmental Performance Report and in the Sustainable Development Strategy Progress Report. Both are available on-line at www.tc.gc.ca/publications/en/menu.htm and www.tc.gc.ca/SDS, respectively.

Transport Canada's Sustainable Development Strategy demonstrates the department's long-term commitment to work with partners in order to achieve sustainable transportation in Canada.

URBAN INITIATIVES

The Urban Transportation Showcase Program

The Urban Transportation Showcase Program (UTSP) is a \$40 million initiative to demonstrate and evaluate the impacts of integrated strategies for reducing GHG emissions from urban transportation. The program evaluates the effects of these strategies on GHG emissions, as well as on other urban challenges such as air pollution, congestion, urban form and land use, operating costs and increased active transportation (e.g. cycling, walking). Information on sustainable urban transportation from the showcase demonstrations and other sources is disseminated via learning events, Internet communications, publication of case studies, and transportation awards to encourage the replication of successful strategies across Canada.

In 2004, five municipalities began implementation: Halifax, Waterloo, Toronto/Hamilton, Whitehorse and Vancouver. For more information, visit www.tc.gc.ca/programs/environment/utsp/menu.htm.

THE MOVING ON SUSTAINABLE TRANSPORTATION (MOST) PROGRAM

Since it started in 1999, the MOST program has funded 74 projects aimed at encouraging sustainable transportation practices among Canadians. Originally slated to last three years and allocated roughly \$1 million, MOST was extended in 2004 until fiscal year 2007 and given \$2.5 million in additional funding in response to ongoing demand for the program.

Seventeen new projects totalling \$714,524 were approved for funding in 2004, for a total of 40 ongoing projects during the course of the year. These projects represent a wide variety of initiatives, ranging from car sharing to quantifying the positive impacts of teleworking. An annual review rolled up the six completed projects, including The Sheltair Group's cities^{PLUS}, a 100-year sustainability plan that won the Grand Prix at the International Competition for Sustainable Urban System Design.

Public Transit

Over the course of 2004, the federal and provincial governments announced a number of investments in public transit. Funding for these projects came from the Canada Strategic Infrastructure Fund to support increased transit ridership that encourages a more environmentally sustainable transportation system.

The October 2004 Speech from the Throne affirmed the Government of Canada's commitment to bring forward a New Deal for Cities and Communities. A component of the New Deal includes allocating federal gasoline tax revenue for environmentally sustainable municipal infrastructure such as public transit and rehabilitation of roads and bridges. For more information, please see the Chapter 7 — Road Transportation.

Also in 2004, Environment Canada partnered with the Canadian Urban Transit Association (CUTA) to deliver a national urban transit bus retrofit program. This program will enable up to 240 older, higher-polluting urban busses to be retrofitted with diesel oxidation catalysts. This will reduce emissions of PM by 20 per cent, carbon monoxide by 40 per cent and hydrocarbons by 50 per cent.

In December 2004, Transport Canada invited employees of all federal government departments and agencies in the National Capital Regional to enroll in the Transit Pass Program. Enrollment is being phased across departments over the coming year. The Transit Pass Program enables employees to purchase a transit pass through a monthly payroll deduction (with OC Transpo) at a reduced price or through a pre-authorized payment (with the Société de transport de l'Outaouais). Participating employees save 10 to 15 per cent (10% for STO and 15% for OC Transpo) and gain the convenience of an annual transit pass.

RELEASE OF SUSTAINABLE TRANSPORTATION PLANNING TOOL

On November 8, 2004, Transport Minister Jean Lapierre announced the release of TransDec, a new software tool that will give organizations considering investing in urban transit projects the ability to include environment factors in their cost/benefit analysis. This software will help transportation planners make more environmentally friendly urban transit decisions.

TransDec provides a framework for analyzing a wide range of prospective transit investments, as well as rehabilitation and maintenance work. The framework applies to various transit modes, including bus systems, light rail, heavy rail, commuter rail and highways.

Canadian governments, transit authorities, universities, non-governmental organizations and independent contractors working for these organizations can use the software free of charge. For more information, visit www.tc.gc.ca/programs/Environment/EconomicAnalysis/model/menu.htm.

Advanced Technology Vehicles Program

The goal of the Advanced Technology Vehicles Program (ATVP) is to support Transport Canada's efforts to reduce GHG emissions in the transportation system. As of December 2004, the ATVP has assessed 94 vehicles for their fuel efficiency, emissions and safety performance. This includes the Mercedes-Benz Smart Car, which was introduced to the Canadian market on October 4, 2004. This fuel-efficient car gets 3.8 litres/100km on the highway and 4.6 litres/100km in the city. In addition, 4.8 million Canadians have been reached through a program of 105 special events undertaken to showcase advanced technology vehicles and to raise public awareness of advanced technology vehicles.

FREIGHT TRANSPORTATION

Freight Efficiency and Technology Initiative

The Freight Efficiency and Technology Initiative (FETI) is led by Transport Canada in collaboration with Natural Resources Canada and is designed to reduce the growth of GHG emissions from freight transportation. It has three components: the Freight Sustainability Demonstration Program (FSDP); voluntary performance agreements between the federal government and modal associations to improve fuel efficiency and reduce GHG emissions; and information-sharing initiatives with the freight industry. In 2004, the FSDP allocated approximately \$1.2 million for eight new demonstration projects, bringing the total to \$2.7 million for 23 projects. Two demonstration projects were completed, and 11 began implementation following the signature of contribution agreements during the summer and fall months. FETI co-funded and/or organized two industry events to promote understanding and actions in support of sustainable freight transportation.

An agreement in principle was reached with the Air Transport Association of Canada (ATAC) to voluntarily reduce GHG emissions in the aviation sector. This will be accomplished through a 24 per cent improvement in energy efficiency by 2012 compared with a base year of 1990. This target will be confirmed in a memorandum of understanding (MOU) in 2005.

Freight Incentives Program

Launched as part of the Climate Change Plan for Canada, the Freight Incentives Program (FIP) provides financial incentives to purchase and install efficiency-enhancing technologies and equipment in the air, rail and marine modes. In 2004, the FIP had its first annual submission deadline, and approximately \$1.5 million was allocated toward four projects. Other work under this program includes the examination of marine shore power to reduce ship idling at terminals and an awareness program for shippers and freight forwarders.

AIR QUALITY

Proposed amendments to the Sulphur in Diesel Fuel Regulations were published on October 2, 2004. They introduce limits for sulphur in off-road, rail and marine diesel fuels and are aligned with the levels and timing requirements passed by the U.S. Environmental Protection Agency in June 2004. The interim limit of 150 mg/kg of sulphur set under the Sulphur in Gasoline Regulations ended December 31, 2004. The final average

limit of 30 mg/kg came into effect on January 1, 2005. Between 2002 and 2003, the national average sulphur content in gasoline has declined 55 per cent.

In May 2004, the federal government proposed the Off-Road Compression-Ignition Engine Emission Regulations, which will introduce emission standards for diesel engines, such as those used in construction and agricultural machines, starting in 2006. It is estimated that there are more than 12 million engines in off-road vehicles and equipment in Canada. Environment Canada also initiated consultations on its planned Marine Spark-Ignition Engine and Off-Road Recreational Vehicle Emission Regulations, which will introduce emission standards for recreational marine engines and vehicles. For more information, visit Environment Canada's CEPA Registry Web site at www.ec.gc.ca/CEPARegistry/default.cfm.

WATER ISSUES

In December 2003, a decision was made to transfer responsibility for the *Navigable Waters Protection Act* (NWPA) from Fisheries and Oceans Canada (DFO) to Transport Canada. The transfer took effect on March 29, 2004. With the transfer, TC is now responsible for conducting environmental assessments (EA) pursuant to the *Canadian Environmental Assessment Act* for projects triggered by the NWPA. The number of EAs TC now conducts on an annual basis has increased significantly and includes a number of major assessments, hydroelectric projects, liquefied natural gas projects and mines.

The Canadian and United States governments are conducting a joint study to evaluate the infrastructure needs of the Great Lakes / St. Lawrence Seaway system, and the engineering, economic and environmental implications of those needs. The study will focus on the optimization of the existing infrastructure based on the system's current configuration and environmental footprint. Seven partners are involved including five Canadian and U.S. federal departments and the Canadian and U.S. Seaway corporations. The study is scheduled to continue until 2006.

NOISE AND AIR TRANSPORTATION

Air traffic around the world continues to increase rapidly, as does the number of extra hours aircraft spend in the air and waiting on the ground. This raises issues related not only to water and air quality but also to the noise associated with air travel. In the spring of 2004, Transport Canada joined the U.S. Federal Aviation

Administration (FAA) and the National Aeronautics and Space Administration (NASA) as a sponsor of the Center of Excellence (COE) for Aircraft Noise and Aviation Emissions Mitigation. This partnership provides Transport Canada with access to a wide range of resources and expertise from academic institutions as well as manufacturers.

In February 2004, Transport Canada officials participated in the activities of the Committee on Aviation Environmental Protection of the International Civil Aviation Organization (ICAO) to develop recommendations to reduce the environmental impact of aircraft noise and engine exhaust emissions (including more stringent standards for nitrogen oxides); to make progress on market-based measures to limit or to reduce emissions; and to provide guidance on implementing a "balanced approach" to noise management.

CONTAMINATED SITES

The 2003 Federal Budget includes a commitment of \$175 million over two years to establish a centrally managed fund to make ongoing resources available to federal contaminated sites. Transport Canada received \$10 million for three remediation projects and \$334,000 for seven site assessment projects in 2004/05 through the Federal Contaminated Sites Accelerated Action Plan.

PROVINCIAL/TERRITORIAL/MUNICIPAL INITIATIVES

ONTARIO

The Ontario Ministry of Transportation (MTO) has embarked on a process to develop a comprehensive, current and consistent approach to environmental compliance that will encompass all environmental factors for all highway activities from planning through to operation and maintenance. One of the first steps in developing a systematic approach to environmental management is the Environmental Standards Project (ESP). For more information, visit www.mto.gov.on.ca/english/engineering/envirostandards.

SASKATCHEWAN

In 2004, Saskatchewan continued to explore and implement new initiatives and technologies that reduce vehicle fuel consumption and vehicle emissions and that optimize transportation facilities. For example, the Saskatoon Transit Service and Saskatchewan Highways are continuing to test canola-oil blend "biodiesel" in portions of their fleets. Indications are that biodiesel reduces diesel fuel consumption and NOx and VOC emissions, and significantly reduces vehicle engine wear. In addition, private industry has developed a canola oil-based diesel fuel additive to enhance regular diesel fuel. The City of Regina and Saskatchewan Energy vehicle fleets are now using compressed natural gas, which reduces petroleum consumption and vehicle emissions.

ALBERTA

Alberta Infrastructure and Transportation (INFTRA), in partnership with the Clean Air Strategic Alliance (CASA),¹ completed successful cold-weather testing of diesel particulate filter technology with City of Edmonton Transit buses. After a year of normal operations, the buses showed decreases in total hydrocarbon emissions between 61 and 87 per cent, carbon monoxide between 83 and 89 per cent, and total PM between 73 and 75 per cent. All the reductions occurred without a change in fuel consumption levels.

In 2004, the CASA Board also made recommendations to help manage transportation demand. CASA stakeholders and member companies, particularly those in Edmonton and Calgary, will be asked to evaluate and assess their current use of transportation demand management (TDM) measures, to consider implementing or modifying their programs as appropriate, and to report back to CASA in three years. Urban municipalities will be encouraged to promote such programs in their regions, and CASA will develop communication tools to help with the implementation and reporting on employer-based TDM measures.

1 CASA was established in March 1994 as a new way to manage air quality issues in Alberta. It is a non-profit association composed of stakeholders from government, industry and non-governmental organizations.

BRITISH COLUMBIA

In December 2004, the Government of British Columbia released "Weather, Climate and the Future: B.C.'s Plan." It includes the development of TDM, congestion-reduction measures, incentives for hybrid/alternative-fuelled vehicles and a driver information program. The provincial government has set a target of 16 per cent GHG reductions from 2000 to 2005 through changes to its vehicle fleet by purchasing hybrid/alternative fuel vehicles, using biodiesel and ethanol fuel blends, switching to more efficient vehicles, and reducing kilometres travelled. The provincial government, and BC Transit (a provincial Crown corporation), is also testing biodiesel in eight fleets in the province. It is also making available funding of up to \$250,000 to construct new cycling infrastructure through the provincial Cycling Infrastructure Partnerships Program.

YUKON

The Northern Climate Exchange Centre (NCE) has partnered with the City of Whitehorse, Yukon Government, Energy Solutions Centre, Yukon Science Institute, Yukon Youth Conservation Corps and Yukon Conservation Society to develop and launch an Anti-Idle campaign in the Yukon. Environment Canada's 2004 EcoAction Community Funding Program has provided additional funds for this program. This project will use a variety of social marketing techniques to reduce idling in Whitehorse. Anti-idling signs will be designed, produced and placed in parking lots, drop-off zones and delivery areas throughout the city to encourage drivers not to idle. The anti-idle campaign complements the existing public education and outreach activities of NCE. The newest mascot, "Auntie Idle," was developed by a local artist and will join "Bob and Dog Mackenzie" to deliver the *Climate Change: Are you doing your bit?* message in the Yukon.

NORTHWEST TERRITORIES

The Northwest Territories Department of Transportation annually constructs and maintains the Mackenzie Valley Winter Road. This road has some 29 different stream crossings that until recently were made via natural or artificially thickened ice bridges. While best practices have been employed in their construction and location, warmer weather in recent years has made the construction and removal of these bridges more problematic. To properly mitigate the potential environmental impacts from these temporary ice bridges on fish habitat, the Department has been constructing new permanent bridges. Construction of these bridges at all stream crossings will ultimately remove any interference with natural stream flow and sediment issues caused by the temporary ice bridges.

*Despite an overall steady level of rail activity, rail exports and imports increased in 2004.
Productivity increases continued to be observed.*

MAJOR EVENTS IN 2004

After a poor grain harvest season in 2002, grain loadings have been increasing steadily, up 20 per cent in 2004.

After a successful acquisition bid, Canadian National (CN) incorporated BC Rail into its operations in July 2004.

A ten-week strike of Iron Ore Company of Canada workers from July to September resulted in railway carloadings of iron ore down to less than half of the normal volume for these three months of the year.

INFRASTRUCTURE

The structure of Canada's rail system remained relatively stable in 2004. There was only a slight loss of track: Canadian Pacific Railway discontinued 129 kilometres of track in Saskatchewan and Alberta, while Southern Manitoba Railway discontinued about 100 kilometres of its system. There was also a large transfer of track, approximately 2,300 kilometres, when CN completed takeover of BC Rail in July. The only other transfer was in southern British Columbia, where Burlington Northern Santa Fe partially sold and leased nine kilometres of track to the newly formed Kettle Falls International Railway.

Table 6-1 shows the distribution of trackage by key carriers and carrier groups in 2004.

As previous annual reports have noted, the latter half of the 1990s saw an explosive growth in the number and activity of shortline railways in Canada. Shortlines began modestly in the late 1980s. Their numbers grew slowly during the early 1990s with only 11 new ones formed before 1996. After the *Canada Transportation Act 1996* came into force, the number of shortlines in Canada grew quite dramatically with 37 new ones formed between 1996 and 2000. In the past four years, however, the sector has plateaued and only a few new shortlines have been created. While more transfers will probably occur in coming years, it is unlikely they will do so at the same rate as in the 1990s.

Between 1990 and 2004, approximately 9,800 kilometres of rail line were discontinued. The majority of this was divided fairly equally between CN and Canadian Pacific Railway (CPR). In previous years, the majority of discontinuances were in eastern Canada, mainly Ontario and Quebec. In recent years, however, most of the track loss has been in the Prairie Provinces. Transfers typically occur from CN or CPR to other carriers. Recently, a substantial amount of track has been transferred among other carriers as well as from other carriers to CN, as with Algoma Central and BC Rail.

TABLE 6-1: RAILWAYS IN CANADA, 2004

	2004 Owned / Leased Route- kilometres	2003 Owned / Leased Route- kilometres ¹	Per cent of Total (2004)	Percentage Change Over Previous Year
CN Rail	21,293	18,969	43.7	12.3
CP Rail	13,347	13,477	27.4	(1.0)
Regional and Shortline Railways	13,209	15,628	27.1	(15.5)
All Others ²	834	843	1.7	(1.1)
Total	48,683	48,916		(0.5)

Notes: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.

Totals may not add up due to rounding.

1 2003 figures revised slightly to reflect improved data.

2 Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Source: *Transport Canada*

Table 6-2 shows rationalization activity in the rail sector in 2004 and from 1990 to 2004.

TABLE 6-2: RAILWAY RATIONALIZATION IN CANADA

		2004 Rationalization	1990 – 2004 Rationalization
Discontinuances	CPR	129	4,573
	CN		4,231
	Other		1,065
	Total		9,869
Transfers	CPR		3,865
	CN		7,983
	Other	2,882	4,151
	Total	2,882	15,998
Total	CPR	129	8,438
	CN		12,214
	Other	2,882	5,215
	Total	3,011	25,867

Note: Totals may not add up due to rounding.

Source: TransportCanada

The 25,867 kilometres of line rationalized since 1990 have resulted in major changes in the structure of the rail industry in Canada. CN and CPR remain the dominant carriers, accounting for about 90 per cent of industry activity and revenues. However, they operate about 70 per cent of the total domestic rail network, whereas a decade ago they operated about 90 per cent of the trackage. This may change somewhat as provincial governments continue to sell regional railways. While CN was not successful in acquiring Ontario Northland Railway, it was recently successful in acquiring BC Rail.

Both CN and CPR are expected to continue the rationalization of their networks. It is also likely that second-order rationalization (the rationalization of track acquired by shortline or other operators from CN or CPR) will continue.

Addendum tables A6-1 and A6-2 show further detail of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

The character of the Canadian railway industry changed dramatically in the 1990s, as the number of carriers more than doubled. Despite these changes, CN and CPR continued to generate the bulk of revenues in the rail industry. Total rail industry revenues in 2003 were \$8.3 billion, of which 89 per cent was generated by the Class I carriers, CN, CPR and VIA Rail. While this was down slightly from the 90.5 per cent share in 1990, Class I carrier revenues grew 1.2 per cent per year over the 1990 – 2003 period. By contrast, the regional railways (BC Rail, Algoma Central,¹ Ontario Northland, Cartier

Railway and the Quebec North Shore & Labrador) saw their revenues decline by 0.3 per cent per year up to 2002. After Algoma Central was taken over by CN, this rate jumped to 0.9 per cent per year for the 1990 – 2003 period. As the shortline sector grew, so did its revenues, from about \$95 million in 1990 to about \$405 million in 2003. This growth equates to an annual growth rate of 11.7 per cent. It also translates into a relative increase in the shortline sector's proportion of rail industry revenues from 1.5 to 5.1 per cent.

Table 6-3 compares revenues in the railway sector in 2002 and 2003. Addendum Table A6-3 shows revenues since 1993.

TABLE 6-3: RAILWAY REVENUES, 2002 AND 2003

(Millions of dollars)		
	2002	2003
CN	3,971	4,002
CPR	2,943	3,010
VIA Rail	407	415
Subtotal Class I	7,321	7,427
Regional ¹	502	467
Shortlines ¹	392	405
Total	8,215	8,299

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

The intercity rail passenger sector continues to be dominated by VIA Rail, which accounts for about 88 per cent of total passenger revenues. The balance of intercity rail passenger services is provided by CN (former Algoma Central Railway services), Ontario Northland and the Quebec North Shore & Labrador. The Great Canadian Railtour Company provides seasonal services between Vancouver and Calgary and Jasper. Amtrak, the U.S. passenger rail corporation, offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail).

EMPLOYMENT

As Addendum Table A6-4 shows, employment in the rail sector has been declining significantly for many years. Over the past 13 years, railway employment fell by 4.6 per cent per year, from more than 67,000 in 1990 to about 36,000 in 2003. Employment at Class I carriers dropped 48 per cent over this period, or 4.9 per cent per year. Considering the loss of regional rail carrier employees due to CN's takeover of Algoma Central, this sector experienced annual average reductions in

¹ 2002 was the final year that Algoma Central was recognized as a separate entity for operating and financial reporting purposes. All reporting has now been integrated under CN Rail.

employment of 5.3 per cent over the same time period (from 5,600 employees in 1990 to just under 2,800 employees in 2003). By contrast, employment in the shortline sector increased 263 per cent over the same period, or 10.4 per cent per year, to reach approximately 2,000 people in 2003. The relative levels of employment in each class of carrier are consistent with these changes. From 1990 to 2003, the Class I carriers dropped from about 91 per cent of total rail industry employment to about 87 per cent, while the regional carriers dropped from 8.4 per cent to 7.6 per cent. Shortline employment, on the other hand, grew from a virtually non-existent proportion to about 5.6 per cent of total rail industry employment.

Table 6-4 compares the level of employment in the rail industry in 2002 and 2003.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2002 AND 2003

	2002	2003
Class I	32,005	31,595
Regional ¹	3,258	2,773
Shortline ¹	2,015	2,029
Total	37,279	36,397

Note: Totals may not add up due to rounding.

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

Class I railways, including VIA Rail, consumed about 1.9 billion litres of fuel in 1990 and 1.8 billion litres in 2003. However, output in terms of revenue tonne-kilometres (RTKms) increased by 31 per cent over the same period, from about 225 billion to about 294 billion RTKms. This demonstrates that while Class I carriers still accounted for 92 per cent of total sector fuel consumption in 2003, they have significantly increased their fuel efficiency. This is due largely to important investments by CN and CPR in new locomotive replacement programs in the latter half of the 1990s, to changes in operating practices, and to a reduction in operations over low-density lines, which for the most part were transferred to other operators. Addendum tables A6-5 and A6-6 provide information on rail energy consumption from 1993 to 2003. Information for years prior to 1993 can be found in previous Annual Reports.

Table 6-5 compares output in the railway sector in 2002 and 2003.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2002 AND 2003

	2002	2003
Class I	292,195.7	293,870.6
Regional ¹	18,406.6	16,670.7
Shortline ¹	7,267.5	7,338.4
Total	317,869.8	317,879.7

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Table 6-6 compares fuel consumption in the railway sector in 2002 and 2003.

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2002 AND 2003 (Millions of litres)

	2002	2003
Class I	1,808	1,847
Regional ¹	125	118
Shortline ¹	89	85
Total	2,022	2,050

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Regional railway fuel consumption and output have both remained relatively stable in recent years. Regional railway fuel efficiency has been higher than Class I railways until recently, but this has been due largely to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway: due to the nature of its operations, the QNS&L has experienced fuel efficiencies almost double the industry norm.

FREIGHT TRANSPORTATION

Generally, the output of railways operating in Canada increased from 1990 to 2002. Since 2002, it has remained steady at almost 320 billion tonne-kilometres. While CN experienced a four per cent decrease in revenue tonne-kilometres in 2003, down to 164 billion, CPR output increased almost 7.5 per cent to 130 billion. Combined output of Class II carriers dropped slightly, from 25.7 billion tonne-kilometres in 2002 to 24.0 billion tonne-kilometres in 2003.

From 1996 to 2000, movements of traffic forwarded to CN and CPR from Canadian Class II carriers increased. In 2001, however, these movements decreased slightly, to 18.5 million tonnes, due mainly to a drop in coal traffic from BC Rail. Since then, this traffic has continued to increase, reaching almost 20 million tonnes in 2003. After a two-year decrease in Class II carrier traffic received

from CN and CPR, this amount rose to 10.4 million tonnes in 2003. Traffic originating on a Canadian Class II carrier, forwarded to CN or CPR and then forwarded to another Canadian Class II carrier to be terminated more than doubled in 2003, totalling 0.67 million tonnes. Because it involves a bridge movement over CN or CPR, the latter traffic has both a forwarded and received component and would be double-counted if included in either forwarded or received traffic. Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1993.

Based on three quarters of data for 2004, CN and CPR output is expected to increase to 191 and 141 billion tonne-kilometres, respectively.

RAIL FREIGHT TRAFFIC — COMMODITIES

As Addendum Table A6-9 shows, annual rail loadings increased five per cent in 2004 to reach 273 million tonnes (not including receipts from U.S. connections). In Western Canada, volumes increased nine per cent to 150 million tonnes, while in Eastern Canada volumes remained near 123 million tonnes. In Western Canada, principal commodities loaded included coal, fertilizer materials, forest products and grain; while in Eastern Canada principal commodities loaded were iron ore, other ores and mine products, forest products and intermodal shipments.

GRAIN

After large decreases in 2002 and 2003, grain shipments in 2004 returned to levels comparable with those of the late 1990s, at 27.5 million tonnes. While this was a 20 per cent increase over 2003, shipments were still well below those volumes reported in the early 1990s, which were between 35 and 40 million tonnes.

COAL AND COKE

After a large decline in 2003, to 31.8 million tonnes, shipments of coal and coke increased only slightly in 2004, by four per cent to 33.1 million tonnes. This is below the average of 38 million tonnes loaded since 1992.

FOREST PRODUCTS

Following a decline to just over 16 million tonnes in 1998, volumes of non-processed forest products remained steady until 2002, when shipments increased to 19 million tonnes. After dropping slightly to about 17.5 million tonnes in 2003, this commodity remained steady at 17.8 million tonnes in 2004. The volume of processed forest products, by contrast, has been increasing since 1998: it reached 27.5 million tonnes in 2004, a 10 per cent increase from 2003. The net result has been a relatively stable volume of forest products, hovering around 40 million tonnes, until 2002, when loadings reached 45 million tonnes. Totals have remained near this value for the past three years.

ORES AND MINE PRODUCTS

With the exception of 2003, shipments of iron ore have been on the rise since 1992. However, in 2004, due to an iron ore workers strike, shipments decreased to 27.9 million tonnes.

FERTILIZER MATERIALS

Although shipments of fertilizers have fluctuated since 1992, they have been increasing since 2001. In 2004, they reached 30.7 million tonnes, an 11 per cent increase over 2003.

INDUSTRIAL PRODUCTS

The largest commodity of this group is chemicals, which increased 11 per cent in 2004 to 16.0 million tonnes, the highest reported value in the last 13 years. Continuing with a steady increase, shipments of metals rose almost 11 per cent to 11.8 million tonnes. Although loadings of automobiles and parts fell slightly to 5.1 million tonnes, this value remains above the average for the time period of 4.1 million tonnes. After doubling in 1998, shipments of petroleum products have been increasing, and remained steady at 14.4 million tonnes in 2004.

INTERMODAL

Between 1996 and 2003, CN and CPR intermodal tonnage grew by 11.1 million tonnes, for an average annual growth rate of 7.0 per cent. Both domestic North American and marine-rail imports grew at an average of 9.0 per cent per year over the same five-year period (with the exception of 1998). Marine-rail exports have been increasing only slightly from 1996 to 2003, at an average rate of 2.6 per cent. These intermodal traffic trends are evident in Addendum Figure A6-1. Growth in total rail intermodal volumes was most significant between 1998 and 1999, at 12.6 per cent. From 2002 to 2003, growth was almost seven per cent, reaching 29.4 million tonnes; growth for 2004 is estimated at 32 million tonnes. Figure A6-2 in the Addendum shows the origin and destination of CN and CPR intermodal traffic. As seen in Addendum Figure A6-3, domestic North American intermodal volumes increased slightly to capture a 44.6 per cent share of the total traffic. This growth came at the expense of rail-marine intermodal exports, which fell slightly to a 25.6 per cent share. Rail-marine intermodal imports remained at 29.8 per cent of total intermodal traffic in 2003.

Canadian origin-destination volumes increased by 6.9 per cent in 2003, staying at 37 per cent of total market share.

As seen in Addendum Figure A6-4, containers on flat cars (COFC) continued to increase their market share in 2003, accounting for more than 92 per cent of total intermodal volumes. This is up considerably from 1996, when COFC only accounted for 77 per cent of total intermodal traffic. This increase was balanced by a proportionate decrease of trailer on flat car (TOFC) volumes.

RAIL FREIGHT TRAFFIC BETWEEN CANADA AND THE UNITED STATES

Addendum Table A6-10 shows volumes of rail export and import by commodity since 1996. Export rail tonnage in 2004 totalled 76.5 million tonnes, an 8.0 per cent increase. Once again, forest products were the largest contributor to export tonnage, increasing slightly to 28.1 million tonnes. Chemicals exports increased significantly in 2004, up 26.9 per cent to 12.5 million tonnes, while exports of fertilizer materials remained steady near 9.2 million tonnes. As in 2003, iron ore exports decreased, to 252,000 tonnes; however, these movements by rail are still above the norm. Grain experienced the largest increase, up 37.3 per cent to 4.5 million tonnes; this is just above the nine-year average

of 4.2 million tonnes. Exports of other mine products experienced the largest decrease, down 47.5 per cent to a nine-year low of 2.3 million tonnes.

Addendum Table A6-11 shows values of rail export and import by commodity since 1996. Consistently, automotive has been the largest contributor to these totals, accounting for 49 per cent in 2004. This was followed by forest products at 22 per cent. Automotive exports in 2004 were the same as 2003, while forest products increased 23 per cent. Other value export commodities of chemicals and metals increased in 2004, resulting in an overall increase of export value to \$78.3 billion.

Ontario remained the largest contributor to rail export volume and value in 2004, originating almost 25 per cent of export volume (18.9 million tonnes) and 62 per cent of export value (\$49.3 billion).

Alberta's contribution to rail exports has been increasing since 1996, making it the second largest province of export by volume in 2004, when it accounted for 18 per cent and originated 14.0 million tonnes. In terms of value, Quebec remains the second largest contributor to rail exports, accounting for 12 per cent and originating \$9.7 million in 2004. See Addendum tables A6-12 and A6-13 for export volumes and values by province of origin.

Import rail tonnage experienced a slight increase in 2004 (5.4 per cent) to 21.7 million tonnes. The largest commodity group was chemicals, which accounted for almost 27 per cent of rail imports while increasing only slightly in 2004 to 5.8 million tonnes. By contrast, metals increased 59 per cent to 2.9 million tonnes in 2004, accounting for 13.5 per cent of total rail imports.

Automotive imports remained just above one million tonnes in 2004, but there was a 2.9 per cent drop by import value, to \$12.2 billion. Nonetheless, automotive remained the top commodity, accounting for 48 per cent of import value.

As seen in Addendum Table A6-14, Ontario cleared 53 per cent of imports, 11.4 million tonnes in total. Combined, Alberta and Quebec cleared 5.3 million tonnes of imports in 2004, a slight decrease for both provinces. In terms of value, Ontario was also the dominant province of clearance, with \$17.9 billion, a slight increase from 2003. This is evident in Addendum Table A6-15.

Further details on exports and imports can be seen in Addendum tables A6-16 to A6-19, which show major commodities originating from and cleared in the provinces mentioned above.

BORDER CROSSING POINTS

As seen in Addendum Table A6-20, two Ontario cities, Fort Frances and Sarnia, were the main border crossing points for rail exports by volume in 2004: they accounted for 19.5 per cent (14.9 million tonnes) and 16.8 per cent (12.8 million tonnes) of exports, respectively. The major commodities exported at these border points were forest products and chemicals, which accounted for about 60 per cent of rail export volumes through these locations.

As seen in Addendum Table A6-21, Sarnia and Windsor were the main border crossing points for rail exports by value in 2004: they accounted for 33.0 per cent (\$25.8 billion) and 22.0 per cent (\$17.2 billion) of exports, respectively. The top commodity exported at these locations was automotive products, which accounted for just over 70 per cent of rail export value at these locations.

Sarnia was also the leading border crossing point for import tonnage in 2004, accounting for 18.5 per cent of total rail import volume (4.0 million tonnes). This is seen in Addendum Table A6-22. Chemicals were the dominant commodity group imported through Sarnia, accounting for 40 per cent of rail imports here. Other major locations as ports of clearance included Toronto, Sault Ste. Marie, Edmonton and Montreal.

The value of imports cleared in Toronto declined slightly in 2004, to \$4.1 billion, while those cleared in Windsor increased to \$3.9 billion. Valuable commodities cleared in Toronto include automotive and chemicals. Addendum Table A6-23 shows rail imports by value and port of clearance.

OVERSEAS TRADE

In 2003, Class I railways carried 83 million tonnes of goods to and from Canadian ports. This was up from 82 million tonnes in 2002. For the second year in a row, traffic in transit between Canada and the United States increased, by almost 23 per cent to 5.5 million tonnes. Addendum Table A6-24 shows fluctuations of rail-marine exports and imports since 1996.

Also for the second year in a row, rail-marine exports originating in British Columbia and Alberta decreased slightly. Those originating in Saskatchewan, however, increased slightly, mainly due to higher exports in grains and potash. These three provinces accounted for 79 per cent of total rail-marine exports in 2003. Addendum Table A6-25 shows rail-marine exports since 1996 for all provinces of origin and the United States.

As in 2002, coal traffic fell by 11 per cent in 2003, to 25 million tonnes. Rail-marine exports of grain decreased slightly to 14 million tonnes. Other agricultural and food products experienced the largest increase in 2003, up 75 per cent to 9 million tonnes. Rail-marine exports of fertilizer materials increased to 10.7 million tonnes, the largest volume reported within the eight-year series of data. Addendum Table A6-26 shows rail-marine exports by commodity since 1996.

Rail-marine imports by Class I carriers totalled 9.2 million tonnes, a small increase. Just over 90 per cent (8.4 million tonnes) of these imports were intermodal.

As in 2002, Ontario and Quebec in 2003 were the main destinations of rail-marine imports, totalling 5.5 million tonnes, or 59 per cent of the total; this was very comparable to 2002. While rail-marine imports to Ontario remained steady, those to Quebec increased by 13 per cent. Rail-marine imports to the United States increased slightly to 2.9 million tonnes. Although not as significant as in the past, the volume of goods destined for Alberta continued to drop, to 0.44 million tonnes in 2003. Addendum Table A6-27 shows rail-marine imports since 1996 for all provinces of destination and the United States.

Although substantially less than intermodal traffic, chemicals was the second largest commodity for rail-marine imports in 2003, at 0.2 million tonnes. Imports of ores and mine products continued to decline, however, dropping 44 per cent to 0.2 million tonnes. Table A6-28 shows rail-marine imports by commodity since 1996.

PASSENGER TRAFFIC

Both total intercity rail passengers carried and passenger-kilometres decreased slightly in 2003, to 3.9 million and 1.4 billion, respectively. VIA Rail carried 4.8 per cent fewer passengers (3.8 million in total) and travelled 9.6 per cent fewer passenger-kilometres (1.4 billion in total). Class II carriers carried 37 per cent fewer passengers in 2003, mainly due to BC Rail's discontinuance of passenger services in late 2002. Addendum Table A6-29 gives details of intercity rail passenger traffic for Class I and II carriers, including Algoma Central, Ontario Northland and the Quebec North Shore & Labrador Railway.

Total commuter rail traffic in Toronto, Montreal and Vancouver in 2003 was 52.5 million passengers, a five per cent increase from 2002. This change reflects a three per cent increase in Toronto's GO Transit and an 11 per cent increase in Montreal's Agence Métropolitaine de Montréal (AMT) riderships. GO Transit represented 69 per cent of commuter rail traffic. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

RAIL FREIGHT INDUSTRY

In 2003, the revenues of CN and CPR operations in Canada grew by 1.4 per cent. This was down slightly from the average yearly increase of 1.8 per cent from 1998 to 2003. Rail freight rates fell by an average 1.7 per cent in 2003 (as rates declined in nearly all commodities) compared with an estimated average 1.4 per cent annual decrease over the 1998 – 2003 period. Demand for rail freight services was strong, posting an overall increase of 3.2 per cent, with agricultural shipments and intermodal experiencing increases of 5.6 and 7.4 per cent, respectively. By commodity groupings, household products, intermodal, and machinery and equipment had the largest year-over-year revenue fluctuations, with variations of 10.5, 4.5 and -7.5 per cent, respectively. Intermodal services accounted for an estimated 27 per cent of total freight revenues, compared with 20 per cent in 1998.

In 2003, productivity increased by 2.4 per cent, the eighth consecutive yearly increase. Gains in productivity in the industry have averaged 5.4 per cent a year since 1998. In terms of unit costs, the surge in oil prices has translated into an increase of 3.3 per cent in unit fuel costs. Both labour and capital unit costs declined, however, resulting in an overall 0.5 per cent drop in unit costs in 2003.

The combined operating profit of \$1.45 billion for CN and CPR in 2003 was 2.2 per cent lower than in 2002; however, the operating ratio remained below 80 per cent. The shortline railways' financial performance improved somewhat in 2003, with a calculated return on assets of 10 per cent (see Table 6-7). Addendum tables A2-61 to A2-64 provide more details on the railway industry.

TABLE 6-7: FINANCIAL INDICATORS OF SHORTLINE RAILROADS,¹ 2001 – 2003

	2001	2002	2003
Net Fixed Assets in \$M	453.3	488.7	495.4
Operating Revenues in \$M	339.0	337.6	332.6
Operating Expenses in \$M	296.8	310.4	283.1
Net Income in \$M	42.2	27.2	49.5
Return On Assets in %	9.3	5.6	10.0
CTA ² Approved Cost of Capital in %	11.4	11.0	10.0

¹ Excludes regional railroads and Canadian connectors to U.S. railroads.

² Canadian Transportation Agency

Source: Transport Canada and Statistics Canada

VIA RAIL

In 2003, VIA Rail's own revenues decreased by an estimated 8.1 per cent, reversing a seven-year trend of increasing revenues. While changes in prices were marginal, the demand dropped on all business segments (corridor, long haul and remote-regional) for an overall decrease of 8.5 per cent. Passenger traffic decreased by 4.8 per cent, possibly reflecting the impact of the SARS outbreak.

VIA Rail's productivity fell in 2003 by an estimated 8.7 per cent, with declines in all production factors: labour, fuel and capital. For their part, unit costs increased by an estimated 12.2 per cent, bringing costs close to their 1995 level.

Total costs increased by 2.7 per cent in 2003. VIA Rail recovered an estimated 45 per cent of total costs in 2003, the first time since 1992 that this ratio has declined.

*In 2003, the revenues of for-hire trucking carriers and bus service operators increased.
The number of trucking bankruptcies dropped by 19 per cent in 2004.*

MAJOR EVENTS IN 2004

LEGISLATIVE AND REGULATORY CHANGES

Motor Carrier Safety Fitness Certificate Regulations — These proposed amendments to the *Motor Vehicle Transport Act* were published for public comment in the *Canada Gazette* Part I on May 3, 2003. These proposed regulations would give provinces and territories the responsibility to monitor the safety performance of all extra-provincial motor carriers licenced in their jurisdiction. Provinces would maintain a complete safety compliance profile of each motor carrier, using input from all jurisdictions in which those carriers operate. They would give all carriers an initial safety fitness certificate of "Satisfactory – Unaudited" until a safety performance is known and/or a facility audit is completed. If a carrier is rated "Unsatisfactory," it could be prohibited from operating on Canadian roads. It is anticipated that these new regulations will be implemented in 2005.

Hours of Service Regulations — On February 15, 2003, revisions to the Federal Hours of Service Regulations for Commercial Vehicle Drivers (bus and truck), applicable to extra-provincial carriers, were published in the *Canada Gazette* Part I. Transport Canada received 50 submissions commenting on the proposed changes. On December 20, 2004, Transport Canada announced that a consensus had been reached among key players in the Canadian trucking industry to limit commercial vehicle drivers to 13 hours of driving and 14 hours on duty per 24-hour period. The proposed regulatory changes are the product of long consultations with industry, the provinces and territories, and others, including Teamsters Canada. The new rules will increase minimum off-duty time over a 24-hour period by 25 per cent, from 8 hours to 10 hours.

This will provide significantly more opportunity for drivers to rest. The new rules will also reduce on-duty time by 12 per cent, from 16 hours to 14 hours, and will reduce the maximum daily driving time for truckers in a 24-hour period by 19 per cent, from 16 hours to 13 hours.

The expectation now is that a final federal regulation will be published in the *Canada Gazette* Part II in 2005 and mirrored shortly thereafter in provincial and territorial regulations.

Vehicle Weights and Dimensions — The federal, provincial and territorial governments agreed to make three changes to the national standards for the weights and dimensions of trucks and buses. The country's transportation ministers endorsed these changes following a recommendation by the intergovernmental Task Force on Vehicle Weights and Dimensions Policy, which considered them at the request of industry stakeholders. Under the changes:

- the existing standard for the overall box length on a truck configured as an "A-train double-trailer" is increased to 20 metres, giving that configuration the same length as the "B-train" and "C-train" double-trailer configurations;
- for the second trailer in a "B-train double-trailer" truck configuration, a new standard will limit the placement of the kingpin to a maximum two metres from any point on the front of the trailer or its load, restricting the swing-out of the trailer during maneuvers; and
- recreational vehicles (i.e. motor homes) are shifted from the category covering "straight trucks" to the category covering "intercity buses," which increases their maximum allowable length from 12.5 to 14 metres.

The new standards are targeted for implementation by individual provinces and territories on July 1, 2005. Canada's national standards are defined in the Memorandum of Understanding (MOU) on Interprovincial Vehicle Weights and Dimensions.

Bus Industry — There were few changes to the regulatory regime for the intercity and charter bus industry in 2004. The only significant development was in British Columbia, where a new *Passenger Transportation Act* came into force in June. This retained economic regulation for intercity bus operations (as well as limousines and taxi services); otherwise, it opened industry entry to all carriers meeting safety and insurance requirements.

OTHER ISSUES OF SIGNIFICANCE

The trucking industry faced a number of challenges over the course of 2004.

U.S. border security measures — U.S. border security measures continue to have a major impact on Canadian carriers transporting goods into the United States. These measures include, among others new requirements for the transportation of explosives, prior notification requirements for food shipments, and prior notification requirements and advanced electronic filing of cargo information. Other measures on the horizon include driver credentials and the possible use of biometric identification.

Cargo Securement — New cargo securement rules drafted by the Canadian Council of Motor Transport Administrators went into effect January 1, 2005. These nation-wide regulations apply to all vehicles with a gross vehicle weight rating or gross combination weight rating of more than 4,500 kilograms. They mirror the North American Cargo Securement Standard that has been in effect in the United States since January 2004.

Truckers must now follow a new set of tie-down standards. Cargo must be immobilized or secured so that it can't: leak, spill, blow or fall from the vehicle; fall through the vehicle; or otherwise become dislodged or shift upon or within the vehicle so that the vehicle's stability or maneuverability is affected. The provinces will have an initial educational period in effect until July 2005, after which violations will be enforced through fines. Violations that pose a clear and present safety risk, however, are enforceable immediately.

Shipper/Carrier Relations — With little excess capacity existing within the industry, trucking firms have been able to levy charges for excessive driver wait times, fuel and insurance cost increases, and even border security costs. This situation is tied to the strength of the economy and the ability of the trucking industry to meet demand for trucks and drivers.

Currency Appreciation — The significant increase in the value of the Canadian dollar relative to the U.S. dollar forced many carriers to levy currency surcharges on their clients.

U.S. Hours of Service — The Federal Motor Carrier Safety Administration has until September 30, 2005, to develop a new set of regulations governing hours of service. The agency has published its intent to investigate the possibility of a rule regarding the use of on-board recorders to enforce hours of service compliance. The industry in Canada is supportive of this initiative in the U.S. and is urging Transport Canada and the provinces to work out the ground rules for a harmonized North American approach.

INFRASTRUCTURE

ROAD NETWORK

Canada's road network consists of more than 1.4 million two-lane equivalent kilometres: 110,000 kilometres of freeways and primary highways; 115,000 kilometres of secondary highways and other arterial roads; and more than 1.2 million kilometres of local streets and rural connector roads. For a breakdown of Canada's road network by province, see Addendum Table A7-1.

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

Trucking plays a significant role in Canada's economy. The goods shipped by truck range from raw materials, to components, to final products. For-hire carriers, private carriers, owner-operators and courier firms make up the industry. As a whole, the industry generated an estimated \$54.7 billion in revenues in 2003. Trucking firms can be differentiated in a number of ways: the size of their fleet of trucks; the type of equipment they use; the geographic scope of their operations; the type of services they offer; and the type of freight they carry. They can also be differentiated by jurisdiction of operations. Carriers that provide interprovincial or international (extraprovincial)

INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent Transportation Systems (ITS) represent a new domain using advanced, or "smart," technologies to exchange information in real time, allowing users, vehicles and infrastructure to be brought together. This makes more efficient use of available resources by managing transportation demand.¹

The key benefits of ITS technologies can be found in a number of areas, including greater safety of the transportation system; greater mobility; enhanced economic productivity; reduced travel time; lower costs for governments, travellers and operators; greater energy efficiency; and reduced impacts on the environment.²

Two recent examples illustrate the benefits of ITS technologies:

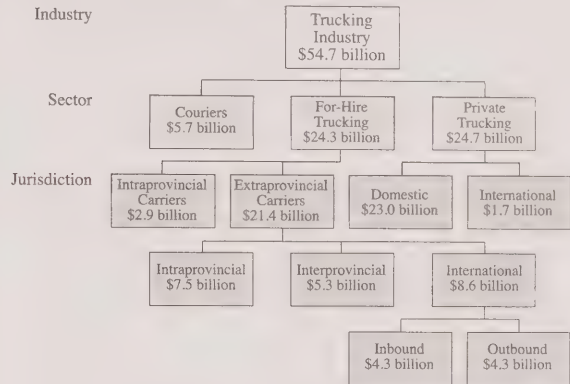
- **Road Weather Information Systems** — These are automated weather stations that use a combination of pavement sensors, telecommunications and other systems to provide real-time information on road and weather conditions. This information is then used to inform road maintenance crews when and how much de-icing chemicals to apply to the road surface. This helps make winter driving safer, reduce the costs of winter road maintenance and mitigate the effects of these chemicals on the environment.
- **Traffic Management Systems** — A good example of such systems is the COMPASS Freeway Management System, used in two major urban centres in Ontario. Traffic is monitored through the integrated use of pavement sensors, remote-controlled cameras, variable message signs and information processing centres, and road users are informed of road conditions. Emergency response services can also be informed of traffic incidents sooner. Traffic management systems also provide data on traffic volumes, which can in turn be used for traffic planning purposes (i.e. design considerations and management of traffic flows). Studies have demonstrated that the COMPASS system has reduced overall delay by 5.3 million vehicle-hours per year, fuel usage by 11.3 million litres per year, and green house emissions by 3,100 tonnes per year.³

Through the establishment of the ITS Strategic Plan for Canada, "En Route to Intelligent Mobility," the federal government has been working to promote awareness of such technologies and to accelerate their deployment across Canada. The Plan also recognizes the importance of further research and development in this field, and has established a strategic approach to promote the sharing and commercialization of knowledge obtained through ITS R&D projects. Addendum Table A7-2 gives an overview of projects that received federal funding through the ITS component of the Strategic Highway Infrastructure Program.

trucking services fall entirely within federal jurisdiction, while carriers that operate solely within a province fall within that province's jurisdiction.

Figure 7-1 shows the structure of the Canadian Trucking Industry and revenues for 2003.

FIGURE 7-1: TRUCKING INDUSTRY STRUCTURE AND REVENUES, 2003



Source: Statistics Canada, Special tabulations based on QMCF-Q4 Survey and Cat. 50-002; "Profile of Private Trucking in Canada", L.P. Tardiff Associates, Jan. 1998; "Canadian Courier Market Size, Structure and Fleet Analysis Study", Infobase Marketing Inc., Jan. 2001

For-hire motor carriers are defined as those that haul freight for others for compensation. They offer either truckload (TL) or less-than-truckload (LTL) services, or a mix of the two. These carriers are further categorized according to the types of freight they carry, such as general freight, household goods, liquid and dry bulk, forest products, and specialized freight. There were approximately 9,600 for-hire motor carriers in Canada in 2003, compared with 9,682 in 2002.

The top ten for-hire trucking companies,⁴ based on total number of vehicles (tractors/trailers) in Canada, remained unchanged in 2004 over the previous year. They include TransForce Income Fund, Montreal, Quebec (8,100); Trimac Transportation Services, Calgary, Alberta (7,202 vehicles); Vitran Corporation, Toronto, Ontario (6,126); TransX, Winnipeg, Manitoba (4,377); SLH Transport, Kingston, Ontario (4,310); Challenger Motor Freight, Cambridge, Ontario (4,248); Robert Transport / Groupe Robert, Boucherville, Quebec (4,109); Mullen Transportation Inc., Aldersyde, Alberta (4,072); Paul's Hauling Group, Winnipeg, Manitoba (3,795); and Day & Ross Transportation Group, Hartland, New Brunswick (3,357).

1 Innovation Through Partnership, Intelligent Transportation Systems Research and Development Plan for Canada, R&D Contribution Agreements Applicant's Guide, June 2003

2 An Intelligent Transportation Systems Plan for Canada: En Route to Intelligent Mobility, November 1999.

3 An Intelligent Transportation Systems Plan for Canada: En Route to Intelligent Mobility, November 1999.

4 Source: *Today's Trucking*, March 2004.

In 2004, there were fewer changes in the industry (acquisitions, strategic alliances and mergers of motor carriers) than in previous years. However, Canada's largest for-hire trucking operation, TransForce Income Fund of Montreal, was very active, acquiring a number of other firms. In January, it acquired Transport Georges Lacaille Ltée, a corporation specializing in truckload activities in Quebec, Ontario and the United States. Headquartered in Carignan, Quebec, Lacaille had revenues of more than \$10 million in its last fiscal year. In February, TransForce acquired Transport S.A.S. of Drummondville, Quebec, and Location S.A.S. Inc. The S.A.S. group had established a solid presence in the truckload transborder sector and had revenues of more than \$11 million in its most recent fiscal year. TransForce then acquired Transpel (1994) in April and Highland Transport in August. Transpel, headquartered in Boucherville, Quebec, operates in specialized truckload activities and had revenues of more than \$33 million in its last fiscal year. Highland Transport, based in Toronto and one of Canada's largest truckload carriers, also operated facilities in Montreal, Vancouver and Moncton. Its presence in the truckload sector extends through nine provinces and into key areas of the United States. Highland Transport's revenues for its last fiscal year exceeded \$125 million. Finally, in September, TransForce acquired Ganeca Transport, which operated in the transborder truckload sector out of Saint Hyacinthe.

Owner-operators own and drive their own truck and operate as small independent for-hire truckers hauling trailers for other carriers or directly for a shipper. By using owner-operators, trucking companies can expand or contract their capacity in response to changing market conditions. There were approximately 35,100 owner-operators in Canada in 2003, compared with 35,085 in 2002.

Couriers and parcel-delivery firms are considered to be part of trucking activity because they operate trucks and provide some of the same services as for-hire carriers. However, there are relatively few trucks used in the courier industry — approximately 2,000 — and most companies use small cube vans, automobiles and even bicycles for deliveries. Operations include same-day messenger delivery and overnight or later delivery. In 2003, the courier industry generated an estimated \$5.7 billion in total revenues, based on average volumes of 2.3 million packages per day. There are approximately 17,000 small courier companies that generate revenues less than \$1 million annually. These companies account for 97 per cent of the total number of courier companies yet account for only 14 per cent of total courier revenues.

Private trucking is that part of the industry not covered by the for-hire segment. This segment includes companies that primarily haul their own freight but that occasionally haul goods for others for compensation. The value of these services is captured under some other, non-trucking part of the national accounts (e.g. farming or manufacturing) because these trucks are operated by someone working for an industry other than for-hire trucking. Most companies that haul their own products in trucks they own do not ordinarily record revenues for this operation. At \$24.7 billion, the estimate for private trucking is better viewed as the operating costs of trucks for these companies. Caution should be exercised in using this estimated value. To estimate the value of private trucking in 2003, the percentage increases or decreases in the for-hire sector since 1998 were applied to the value of private trucking as calculated in the January 1998 study *Profile of Private Trucking in Canada*.

Other includes that part of the industry using trucks for purposes other than hauling freight commercially. For example, a construction company uses trucks and trailers to transport heavy machinery between job sites. Municipal governments, which use trucks as platforms for specialized equipment, such as a garbage packer, tree-trimmer, crane or snow plough, run some of the largest fleets on the road.

The annual number of trucking bankruptcies has steadily decreased since 2001, the last year the number increased. The number of bankruptcies decreased 14 per cent in 2002, nine per cent in 2003 and 19 per cent in 2004. These decreases are more pronounced than those observed for other sectors of the economy.

Addendum Table A7-3 shows the number of trucking bankruptcies compared with the economy by region from 2000 to 2004.

In terms of revenues, general freight carriers continue to dominate the for-hire sector, accounting for 63 per cent of for-hire revenues in 2003. Specialized freight accounted for 17 per cent of total revenues. Table 7.1 compares the revenues of large for-hire trucking firms by the type of freight carried from 2001 to 2003.

Table 7.2 shows total for-hire trucking revenues by size of carrier from 2000 to 2003, as measured by four categories of annual revenues: \$25 million or more; \$12 million to \$25 million; \$1 million to \$12 million; and less than \$1 million. Total revenues have more than doubled since 1991; the proportion of revenues in each of the four categories, however, has remained relatively stable. Addendum Table A7-4 shows the same information over a longer time series.

TABLE 7-1: FOR-HIRE CARRIER REVENUES BY MARKET SEGMENT, 2001 – 2003¹

	(Millions of dollars)			Per cent of Total		
	2001	2002	2003	2001	2002	2003
General freight	12,761.8	12,803.7	13,247.9	60.8	62.1	62.5
Movers	629.1	599.8	505.2	3.0	2.9	2.4
Liquid bulk	1,654.5	1,776.5	1,505.9	7.9	8.6	7.1
Dry bulk	1,470.8	1,159.8	1,593.6	7.0	5.6	7.5
Forest products	1,030.2	948.6	828.7	4.9	4.6	3.9
Other specialized freight	3,456.3	3,329.4	3,523.0	16.5	16.1	16.6
Total	21,002.8	20,617.8	21,204.3	100.0	100.0	100.0

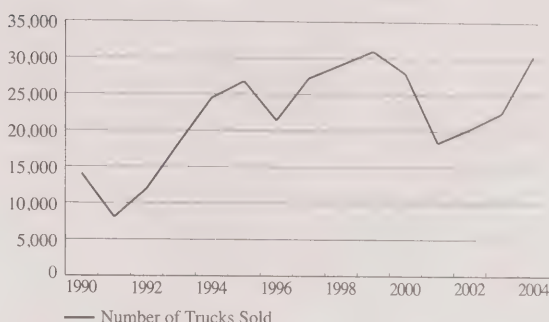
Note: "Other specialized freight" includes motor vehicles, heavy machinery, agricultural, live animals and other commodities carriers.

¹ Includes medium and large for-hire carriers; i.e., carriers with annual operating revenues of \$1 million or more.

Source: Transport Canada, based on Statistics Canada, *Quarterly Motor Carriers of Freight Survey (QMCf)* 2000 – 2003

Reported sales of Class 8⁵ trucks have fluctuated yearly. This has been driven by a number of factors, including the profitability of carriers, the demand for trucking services and carriers' fleet replacement policies. The demand for many trucking services tends to increase or decrease with market conditions (the economy as a whole or certain segments of the economy), and swings in these market conditions tend to be exacerbated in the final demand for trucking services. Following the 2001 economic slowdown in both Canada and the United States, truck sales have increased each year, by 10.5 per cent in 2002, 10.8 per cent in 2003 and 34.8 per cent in 2004.

Figure 7-2 shows the sales of Class 8 trucks from 1990 to 2004.

FIGURE 7-2: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2004

Source: Canadian Vehicle Manufacturers' Association

BUS INDUSTRY

Transit, school, intercity and charter/tour are the four principal sectors⁶ of the Canadian bus industry. The main characteristic distinguishing intercity and charter operators from the other bus sectors is their use of motor coaches (as opposed to school or transit buses). The school, intercity and charter/tour are closely interrelated, and corporate ownership cuts across sectoral lines. Carriers in all sectors and of all sizes often offer a mix of services.

Scheduled Intercity Bus Carriers — These carriers primarily operate scheduled services between two or more urban areas. These carriers link all Canadian provinces and territories except for Nunavut. Greyhound, a subsidiary of Laidlaw International Inc., is the largest Canadian scheduled carrier and the principal intercity operator in Ontario and the west. The largest intercity carrier east of Ontario is Groupe Orléans, which operates in Quebec as Orléans Express and in the Maritimes as

TABLE 7-2: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIERS, 2000 – 2003¹

Year	Small Carriers (Less than \$1 million)		Medium Carriers (\$1 – 12 million)		Large Carriers (\$12 – 25 million)		Top Carriers (Over \$25 million)		Grand Total Revenues (Millions of dollars)
	Revenues (Millions of dollars)	Share (per cent of total)	Revenues (Millions of dollars)	Share (per cent of total)	Revenues (Millions of dollars)	Share (per cent of total)	Revenues (Millions of dollars)	Share (per cent of total)	
2000	1,366	6.2	9,514	43.0	4,660	21.1	6,562	29.7	22,103
2001	1,512	6.3	11,277	47.1	4,506	18.8	6,662	27.8	23,758
2002	1,500	6.4	10,167	43.0	5,091	21.6	6,859	29.0	23,618
2003	1,550	6.4	10,057	41.3	5,561	22.8	7,186	29.5	24,354

Note: 2002 and 2003 small for-hire carriers revenues estimated.

¹ Including motor for-hire carriers of freight earning annual revenues of \$30,000 or more.

Sources: Transport Canada, based on Statistics Canada, *Annual Motor Carriers of Freight Survey (AMCF)* 1990-93, *Annual Supplement (Q5)* 1994-1998 and *Quarterly Motor Carriers of Freight Survey (QMCf)* 1999-2003

5 Trucks with a gross vehicle weight exceeding 15,000 kilograms.

6 The North American Industrial Classification System (NAICS) has been used in Canada since 1997. The NAICS breaks down the bus industry under six headings: urban transit systems; interurban and rural bus transportation (scheduled intercity); school and employee bus transportation; charter bus industry; other ground passenger transportation (shuttle); and scenic/sightseeing transportation.

Acadian Lines. Coach Canada provides scheduled service in the Montreal–Toronto–Niagara corridor. Other scheduled operators include the Saskatchewan Transportation Company and Ontario Northland (both provincial Crown corporations), DRL (Newfoundland and Nova Scotia), and Les Autobus Maheux and Intercar (both Quebec). Most scheduled intercity operators also provide at least some charter service.

Charter/Tour Carriers — Charter service typically refers to the rental of a bus to a person or group where all passengers embark and disembark at the same point. By contrast, tour carriers primarily sell individual seats for scenic and sightseeing services over fixed routes. Shuttle carriers are the main providers of services to airports and rail terminals. The larger charter/tour carriers include Brewster Transportation & Tours, Pacific Western Transportation Ltd. and Coach Canada. A single carrier frequently offers both charter and shuttle services, and it is not uncommon for such carriers to also provide school bus service.

School Service — School bus carriers provide bus service to transport students to and from school. In addition, most school bus operators provide some charter service. Laidlaw is the largest school bus carrier in Canada.

Urban Transit Service — All major cities in Canada have some form of public transit service. Close to 20 million people are provided with regular transit service covering 2,600 fixed routes using a mix of buses, trolley coaches, light rail vehicles and commuter rail vehicles. Municipal, federal and provincial governments provide operating and capital contributions for urban transit services. Some urban transit operators offer school bus and charter services as well as services to travellers with disabilities.

BUS TRANSPORTATION

Altogether, the approximately 1,500 operators that make up the Canadian bus industry move more than 1.5 billion passengers each year. In 2003, the bus industry generated close to \$7.5 billion in total revenues, including government operating and capital contributions. The industry can be analyzed by segment (i.e. main company activity as classified under NAICS) or by service lines.

Bus segments (NAICS) — Urban Transit continued to be the largest sector by far in the bus industry in 2003. The segment captured almost 67 per cent of total industry revenues, including government contributions (or 49 per cent excluding government contributions). Operating and capital contributions from governments accounted for 54 per cent of urban transit operators' total revenues. Urban transit operators are typically dedicated to transit operations, with only a fraction of their revenues coming from other service lines.

The second largest segment was the "School Bus" sector, with 31 per cent of total bus revenues. Intercity operators and charter/tour operators ranked third. Almost all of those operators, regardless of their primary business, provided other service lines, which demonstrates the heterogeneous character of the industry.

Service Lines — Because most bus companies provide a mix of services, looking at service lines across the industry arguably gives a better indication of industry developments than an analysis of growth in each NAICS category.

Overall, the bus industry grew from \$5.3 billion in 1996 to \$7.5 billion in 2003, an average annual growth of almost five per cent. However, this growth was unevenly distributed among the service lines, averaging between 2.5 per cent for "parcel express delivery" and 7.4 per cent for "charters, shuttle and sightseeing" services, the best performance of any of the service lines during this period.

Service line revenues were somewhat higher since 2001 due to a new bus survey capturing a larger number of companies.⁷ In terms of passengers carried, urban transit services (including urban transit operators and other operators offering transit services) carried 1,656 million passengers in 2003, a two per cent increase over 2002. Intercity services carried 14.0 million passengers in 2003, representing a 7.3 per cent decrease over the 2002 total. Table 7-3 shows bus revenues by service lines from 1996 to 2003.

7 From 1994 to 2000, the passenger bus and urban transit survey covered companies having annual gross revenues of \$200,000 or more. Since 2001, the new passenger bus survey has covered all companies that have at least one bus establishment that provides bus and urban transit services.

TABLE 7-3: BUS INDUSTRY REVENUES BY BUSINESS LINES, 1996 – 2003

	(Millions of dollars)							
	1996	1997	1998	1999	2000	2001 ¹	2002	2003 ²
Number of companies	898	877	1,110	1,062	968	1,813	1,715	1,497
Service Line								
Urban transit services	1,574	1,672	1,694	1,817	1,956	2,092	2,234	2,317
School bus transportation	832	826	894	915	964	1,112	1,220	1,233
Charters, shuttle and sightseeing services	334	316	369	352	449	469	506	552
Scheduled intercity services	248	241	240	236	271	332	329	319
Other passenger/operating revenues	196	191	216	219	225	246	283	197
Parcel express delivery	85	79	87	88	96	98	100	101
Total (excluding government contributions)	3,269	3,326	3,499	3,627	3,961	4,349	4,672	4,719
Government contributions ³	2,056	2,137	2,386	2,562	2,271	2,355	2,440	2,774
Total	5,326	5,463	5,885	6,189	6,231	6,703	7,112	7,493

¹ From 1996 to 2000: Including bus operators with annual revenues greater than \$200,000; 2001-2003: New "Passenger bus and urban transit" survey by Statistics Canada including all bus companies.

² Preliminary date for 2003.

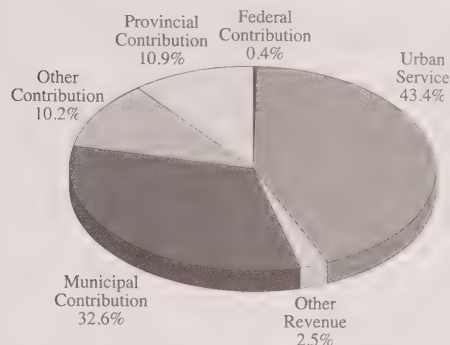
³ Including operating and capital government contributions for urban transit.

Source: Transport Canada, adapted from Statistics Canada, *Passenger bus and urban transit statistics*, Cat. 53-215, and Statistics Canada, *New "Passenger bus and urban transit" survey for 2001, 2002 and 2003*; special tabulation based on NAICS and Canadian Urban Transit Association (CUTA).

URBAN TRANSIT

In 2003, revenues of urban transit operators totalled \$5.0 billion, up eight per cent compared with 2002. The main source of revenues for operators was government contributions, which accounted for 54 per cent of the total. Transit services accounted for 43 per cent of this total. From 1996 to 2003, operating revenues of urban transit systems grew at an average annual rate of 5.1 per cent, while government contributions rose at an average rate of 4.0 per cent. As a result, the government contribution's share in total urban transit revenues decreased from 56 to 54 per cent over this period. Addendum Table A7-5 shows revenue services offered by urban transit operators over the 1996 – 2003 period. Figure 7.3 illustrates revenue sources for urban transit operators in 2003.

Urban transit ridership levels decreased in the early 1990s to a low of 1,353 million passengers in 1996. Since then (except for a small decrease in 2001), the number of passengers has increased steadily, reaching 1,560 million

FIGURE 7-3: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2003

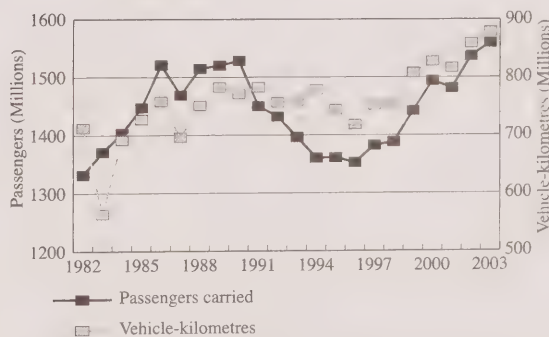
Note: "Other includes charter, school bus and other passenger services.

Source: Transport Canada tabulations, adapted from Canadian Urban Transit Association (CUTA) data

in 2003, the highest level in the last two decades. Similarly, distance travelled by urban transit vehicles jumped from 716.4 million to 877 million vehicle-kilometres between 1996 and 2003. This represents an average annual increase of three per cent.

The urban transit fleet has also increased over the same period at an average annual rate of two per cent from 13,049 to 14,970 vehicles in 2003. The main change in fleet composition was the replacement of standard buses with more accessible low-floor buses, from 499 in 1996 to 4,347 in 2003. (See Addendum tables A7-6 to A7-8 for more on Urban Transit revenues, ridership and fleet composition.)

Figure 7-4 shows the total revenues by source in the urban transit sector for 2003.

FIGURE 7-4: LONG-TERM TREND IN URBAN TRANSIT, 1982 – 2003

Source: Statistics Canada, "Passenger bus and urban transit statistics", Cat. 53-215, special tabulations based on Canadian Urban Transit Association (CUTA) data

PASSENGER TRANSPORTATION

LIGHT VEHICLE FLEET AND USE

The 2003 Canadian Vehicle Survey indicates that there were 17.5 million light vehicles registered in the ten provinces (data refer to in-scope vehicles under 4,500 kilograms gross weight). Of this total, 11.1 million were classified as passenger cars and station wagons, 2.2 million vehicles as vans, 1.5 million as sport-utility vehicles and 2.7 million as pickup trucks. As a group, light trucks and vans represented 36 per cent of the light vehicle fleet. As Table 7-4 shows, cars and station wagons were driven about 171 billion vehicle-kilometres, or 60 per cent of total vehicle-kilometres, while vans and light trucks were driven 114 billion vehicle-kilometres, or 40 per cent of the total. Vans and light trucks, however, were driven about 18,000 kilometres per year on average, 16 per cent more than the 15,400 kilometres for cars and station wagons. Vans and light trucks also had slightly higher vehicle occupancies than passenger cars, accounting for about 41 per cent of light-vehicle passenger-kilometres. This works out to an average occupancy of 1.68 persons per light truck or van compared with 1.58 for cars and station wagons.

**TABLE 7-4: DISTRIBUTION OF VEHICLE ACTIVITY
BY VEHICLE BODY, 2003**

	<i>Car / station wagon</i>	<i>Light trucks/vans</i>				<i>Other</i>	<i>Total</i>
		<i>Van</i>	<i>Sport- utility</i>	<i>Pickup truck</i>	<i>Subtotal</i>		
Vehicles (millions)	11.1	2.2	1.5	2.7	6.4	0.1	17.5
Per cent share	63.3	12.6	8.4	15.5	36.4	0.3	100.0
Vehicle-km (billions)	170.7	41.7	26.6	45.6	113.9	1.0	285.6
Per cent share	59.8	14.6	9.3	16.0	39.9	0.4	100.0
Passenger-km (billions)	270.2	78.8	42.6	69.7	191.1	1.3	462.6
Per cent share	58.4	17.0	9.2	15.1	41.3	0.3	100.0
Litres of fuel (billions)	17.5	5.5	3.2	6.7	15.5	0.1	33.1
Per cent share	52.8	16.7	9.7	20.4	46.8	0.4	100.0
Distance driven (thousands km)	15.4	19.0	18.1	16.9	17.9	19.0	16.3
Persons per vehicle	1.58	1.89	1.60	1.53	1.68	1.34	1.62
Fuel efficiency (L/100km)	10.2	13.2	12.1	14.8	13.6	13.3	11.6

Note: Figures exclude the territories. Some totals may not add up due to rounding.

Source: Canadian Vehicle Survey, 2003 Annual Averages

There was a wide gap in fuel efficiency between cars and the heavier trucks and vans. Calculated fuel efficiency for cars and station wagons averaged about 10 L/100 km, about 25 per cent lower than the 13.6 L/100 km for vans and trucks.

With few exceptions, the distribution of light vehicles, vehicle-kilometres and passenger-kilometres by province/territory broadly followed the distribution of population. In terms of motorization (number of vehicles per capita), most jurisdictions were clustered around the national average of about 550 vehicles per 1,000 people. The exceptions were Alberta, Saskatchewan and the Yukon with rates 10 per cent higher than the average, and Newfoundland and Labrador and the other two territories with rates at least 13 per cent below the average. Annual average vehicle use was 16,300 kilometres nationally, with a low of about 14,200 for Newfoundland and British Columbia to a high of 19,200 in Nova Scotia. Nunavut averaged less than 9,000 kilometres per year. Average vehicle occupancies were bunched around the national average of 1.6 persons per vehicle. Average light vehicle fuel efficiency varied from a low of 10.9 L/100 km in Nova Scotia to 12.6 L/100 km in Prince Edward Island.

Table 7-5 shows light vehicle statistics by province and territory for 2003.

Table 7-6 shows the distribution of trip purposes for light vehicles. Going shopping or running errands was the most frequently reported purpose, registering nearly 74 billion vehicle-kilometres or 26 per cent of the total kilometres driven. Travel to and from work or school accounted for nearly 24 per cent of vehicle-kilometres, while recreational and related leisure activity made up 18 per cent of the total. The balance, 18.7 per cent, was made up of all other non-work related trips. Vehicle use as part of a job accounted for nearly 40 billion vehicle-kilometres, or 13.6 per cent of total light vehicle kilometres driven. Picking up and delivering goods accounted for 28 per cent of this total (nearly four per cent of light vehicle vehicle-kilometres). Service calls added nearly 21 per cent (2.8 per cent) while all other work purposes made up the balance (seven per cent).

TABLE 7-5: LIGHT VEHICLE STATISTICS BY PROVINCE/TERRITORY, 2003

	Vehicles (thousands)	Vehicle- kilometres (billions)	Passenger- kilometres (billions)	Litres of fuel purchased (billions)	Vehicles per 1,000 population	Averages		
						Average distance driven (thousands)	Passengers per vehicle	Average fuel efficiency (L/100km)
Newfoundland and Labrador	247	3.5	6.3	0.4	478	14.2	1.8	11.3
Prince Edward Island	73	1.3	2.1	0.2	533	17.5	1.6	12.6
Nova Scotia	520	10.0	17.7	1.1	555	19.2	1.8	10.9
New Brunswick	437	7.7	12.8	0.9	582	17.6	1.7	12.2
Quebec	4,100	69.0	108.0	8.0	544	16.8	1.6	11.6
Ontario	6,550	105.9	169.0	11.9	529	16.2	1.6	11.2
Manitoba	589	11.0	18.9	1.3	504	18.7	1.7	11.8
Saskatchewan	622	10.9	19.7	1.2	625	17.5	1.8	11.1
Alberta	2,056	34.0	55.1	4.1	642	16.5	1.6	12.0
British Columbia	2,287	32.4	53.2	4.0	545	14.2	1.6	12.3
Yukon Territory	23	0.4	N/A	N/A	741	15.8	N/A	N/A
Northwest Territories	20	0.3	N/A	N/A	459	14.6	N/A	N/A
Nunavut	3	0.02	N/A	N/A	97	8.6	N/A	N/A
Canada	17,528	286.3	462.6	33.1	549	16.3	1.6	11.5
Percentage distribution								
Newfoundland and Labrador	1.4	1.2	1.4	1.2	87.2	87.0	110.3	98.1
Prince Edward Island	0.4	0.4	0.5	0.5	97.1	106.9	101.1	108.8
Nova Scotia	3.0	3.5	3.8	3.3	101.1	117.3	110.1	94.1
New Brunswick	2.5	2.7	2.8	2.8	106.1	107.7	103.1	105.4
Quebec	23.4	24.1	23.3	24.3	99.1	103.0	96.8	100.8
Ontario	37.4	37.0	36.5	35.9	96.3	99.0	98.7	97.1
Manitoba	3.4	3.8	4.1	3.9	91.8	114.4	106.0	102.4
Saskatchewan	3.5	3.8	4.3	3.7	113.9	107.1	112.0	96.1
Alberta	11.7	11.9	11.9	12.3	117.0	101.1	100.3	103.7
British Columbia	13.0	11.3	11.5	12.1	99.3	86.7	101.6	106.9
Yukon Territory	0.1	0.1	N/A	N/A	135.1	96.9	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	83.7	89.2	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	17.6	52.8	N/A	N/A
Canada	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes: N/A = Not available. Some totals may not add up due to rounding.

Due to high sampling variability in the passenger-kilometre and fuel purchase estimates at the provincial/territorial level, figures for average fuel efficiency should be used with caution.

Source: Canadian Vehicle Survey, 2003 Annual Averages

TABLE 7-6: TRIP PURPOSE FOR LIGHT VEHICLES, 2003

Activity (to or from)	Vehicle-km (billions)	Percentage share
Work or school	67.3	23.5
Shopping or errands	73.6	25.8
Recreational or social activity	52.3	18.3
Other	53.5	18.7
(Job) picking up or delivering goods	10.8	3.8
(Job) to or from service call	8.1	2.8
(Job) other work purpose	20.0	7.0
	285.6	100.0

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2003 Annual Averages

FREIGHT TRANSPORTATION

HEAVY TRUCK FLEET BY PROVINCE/TERRITORY

The Canadian Vehicle Survey also provides information on the heavy truck fleet and its use characteristics. As Table 7-7, shows, there were more than 600,000 trucks registered in Canada in 2003 with a gross vehicle weight of at least 4,500 kilograms. This fleet included 322,000 medium trucks weighing between 4,500 and 15,000 kilograms and 279,000 heavy or Class 8 trucks weighing over 15,000 kilograms. About 75 per cent of the Class 8 heavy truck fleet was concentrated in three provinces, Ontario (37 per cent), Alberta (24 per cent) and Quebec (13 per cent). The medium truck fleet was concentrated in five provinces, which shared about 90 per cent of the total. The distribution of vehicle-kilometres was heavily tilted in favour of heavy trucks, which accounted for over 18 billion in 2003, versus 6.2 billion for medium trucks. The distribution of heavy truck

TABLE 7-7: CANADA'S HEAVY TRUCK FLEET, 2003

	Vehicles (thousands)		Vehicle-km (millions)		Percentage distribution			
	Medium	Heavy	Medium	Heavy	Vehicles		Vehicle-km	
					Medium	Heavy	Medium	Heavy
Newfoundland and Labrador	3.3	2.6	50	143	1.0	0.9	0.8	0.8
Prince Edward Island	1.6	2.5	12	37	0.5	0.9	0.2	0.2
Nova Scotia	7.6	7.4	154	362	2.4	2.7	2.5	1.9
New Brunswick	5.1	3.7	91	74	1.6	1.3	1.5	0.4
Quebec	48.6	37.2	1,108	3,579	15.1	13.3	18.0	19.3
Ontario	69.3	104.0	1,826	8,031	21.5	37.3	29.6	43.3
Manitoba	9.3	13.2	148	1,069	2.9	4.8	2.4	5.8
Saskatchewan	36.5	23.5	295	1,011	11.3	8.5	4.8	5.4
Alberta	81.6	68.1	1,345	3,693	25.3	24.4	21.8	19.9
British Columbia	57.7	13.8	1,117	391	17.9	5.0	18.1	2.1
Yukon Territory	0.9	1.2	11	110	0.3	0.4	0.2	0.6
Northwest Territories	0.5	1.3	7	67	0.1	0.4	0.1	0.4
Nunavut	0.2	0.1	1	1	0.05	0.03	0.02	0.01
Canada	322.0	278.6	6,164	18,568	100.0	100.0	100.0	100.0

Notes: Medium trucks have a gross weight between 4.5 tonnes and 15 tonnes; heavy trucks have a gross weight of 15 tonnes or more.
Some totals may not add up due to rounding.

Source: Canadian Vehicle Survey, 2003 Annual Averages

vehicle-kilometres was even more concentrated in Ontario, Alberta and Quebec, which combined accounted for over 80 per cent of total kilometres driven.

Not surprisingly, heavy trucks were driven much farther, on average, than medium trucks, given similar numbers of trucks and a huge difference in vehicle-kilometres. On average, heavy trucks were driven nearly 67,000 kilometres per year, three and a half times more than the 19,000 kilometres driven by medium trucks. The variation in heavy truck average distance driven by province was also substantial, ranging from a low of 15,000 per vehicle in Prince Edward Island to 96,000 per vehicle in Quebec. Medium truck use across jurisdiction also varied widely, from a low of only 8,000 in Prince Edward Island (6,000 in Nunavut) to over 26,000 in Ontario.

HEAVY TRUCK VEHICLE CONFIGURATIONS

Table 7-8 provides a different perspective on the medium/heavy truck fleet based on truck configuration. In the ten provinces, there were 375,000 registered straight trucks (the power unit and the cargo area combined in a single chassis), 170,000 tractor-trailers (the power unit pulls the cargo area in a separate trailer) and about 55,000 vehicles classified as other vehicles. While tractor-trailer combinations accounted for about 30 per cent of the fleet, they accounted for nearly two thirds of the truck vehicle-kilometres, or 15.5 billion. Once again this was due to the great difference in average distance driven per vehicle. Straight trucks were driven a little over 20,000 kilometres annually, while tractor-trailers were driven over 90,000 kilometres per year. Heavy truck fuel efficiency averaged about 36 L/100 km, with straight trucks averaging 32 L/100 km and tractor-trailers averaging about 40 L/100km.

TABLE 7-8: HEAVY TRUCK STATISTICS, BY CONFIGURATION, 2003

	Vehicles		Vehicle-km		Fuel (litres)		Average distance driven (thousands of kilometres)	Fuel efficiency (Litres/100km)
	(thousands)	Share	(billions)	Share	(billions)	Share		
Straight truck	376	62.8	8.0	32.4	2.5	28.4	21.2	31.9
Tractor trailer	169	28.0	15.7	63.2	6.1	68.8	92.7	39.6
Bus/other	55	9.2	1.0	4.5	0.2	2.7	20.0	22.1
Heavy trucks	600	100.0	24.7	100.0	8.9	100.0	41.1	36.3

Note: Figures exclude the territories and buses. Some totals may not add up due to rounding.

Source: Canadian Vehicle Survey 2003

Table 7-9 provides further detail on heavy truck vehicle configurations. Medium trucks were characterized by the straight truck configuration, as about 80 per cent of the kilometres driven were with this format. Heavy trucks, by contrast, were dominated by various tractor-trailer combinations. The most popular was a tractor and one trailer (the conventional 18 wheeler), which accounted for over 70 per cent of the heavy truck vehicle-kilometres. Straight trucks accounted for only 14 per cent of the heavy truck vehicle-kilometres.

TABLE 7-9: HEAVY TRUCK VEHICLE-KILOMETRES BY VEHICLE CONFIGURATION, 2003

	Medium (per cent)	Heavy (per cent)
Straight truck	79.3	14.2
Tractor only	0.1	3.1
Tractor and 1 trailer	3.9	72.0
Tractor and 2 trailers	-	9.0
Tractor and 3 trailers	-	0.0
Other	16.8	1.6
Total vehicle-km (billions)	6.1	18.4

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey 2003

Table 7-10 shows the typical uses of medium and heavy trucks. Medium trucks were used for a variety of purposes, with 62 per cent of the vehicle-kilometres taken up with carrying goods or equipment, a traditional freight-hauling role, while 33 per cent was devoted to non-freight carrying functions such as making service calls. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private "trucking" business. Of the 6.1 billion vehicle-kilometres driven in the 10 provinces, about five per cent were done empty.

TABLE 7-10: USE OF HEAVY VEHICLES, 2003

	Medium trucks		Heavy trucks	
	Vehicle-kilometres (billions)	Share (per cent)	Vehicle-kilometres (billions)	Share (per cent)
Carrying goods/equipment	3.8	62	14.7	80
Empty	0.3	5	2.4	13
Other work purpose	2.0	33	1.3	7
Total	6.1	100	18.4	100

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey 2003

Heavy truck activity was dominated by the conventional role of hauling goods or equipment, accounting for 80 per cent of total vehicle-kilometres. Less than 10 per cent of vehicle-kilometres was for other work purposes, and about 13 per cent was made empty.

TRUCKING FREIGHT TRANSPORTATION

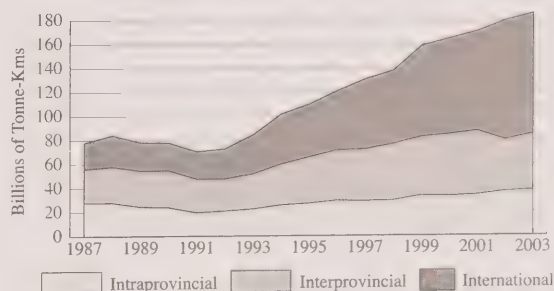
TRUCK TRAFFIC BY SECTOR

Between 1993 and 2003, for-hire truck⁸ traffic rebounded from a slowdown due to the 1990 – 1992, jumping from 84.6 to 185.0 billion tonne-kilometres. The transborder sector dominated, with an annual average growth rate of 11.4 per cent. This was more than twice the rate in domestic trucking activities, which was 5.5 per cent. Domestic trucking activities include intraprovincial and interprovincial activities, which grew at rates of 4.4 per cent and 6.3 per cent a year, respectively.

In terms of value, about 63 per cent of Canada-U.S. trade moved by truck in 2003. Commodities shipped by truck from/to the U.S. totalled \$335 billion, with exports accounting for \$173 billion. Preliminary 2004 trade data showed an increase of six per cent in the value of cargo shipped by truck to the U.S. but less than per cent growth for the reverse movement. Factors such as uncertain conditions in the U.S. due to war in Iraq, high fuel prices, and increased security measures at border points since September 2001, may have contributed to a slower growth in trucking traffic, combined with an appreciation of the Canadian dollar, which has made Canadian goods relatively more expensive to American consumers.

Figure 7-5 illustrates the growth of Canadian for-hire trucking traffic between 1987 and 2003. Table A7-9 in the Addendum provides the data in a tabular form.

FIGURE 7-5: TONNE-KILOMETRES OF FREIGHT MOVED – CANADA-BASED FOR-HIRE TRUCKING, 1987 – 2003



Note: For-hire trucking carriers with annual operating revenues of \$0.5 million or more (1988/89) and of \$1 million or more (1990 – 2003).

Source: Statistics Canada, *Trucking in Canada*, Cat. 53-222 and Special tabulations

8 Including Canadian domiciled long-distance for-hire trucking firms with annual operating revenues of \$1 million or more.

COMMODITIES AND TRUCKING FLOWS

In 2003, domestic and transborder for-hire truck traffic by Canadian firms generated revenues of \$8.8 billion and \$8.0 billion, respectively. Six groups of commodities represented 82 per cent of transport revenues. They are: manufactured products (26 per cent), food products (17 per cent), forest products (13 per cent), metal and steel products (nine per cent), automobile and transport products (eight per cent), and plastic/chemical products (eight per cent). In terms of volume, measured in tonne-kilometres, the same six commodities also dominated in the same proportion (i.e., 82 per cent of the total).

Ontario dominated in all market segments, with 36 per cent of intraprovincial trucking traffic, 34 per cent of interprovincial trucking traffic and 45 per cent of total transborder traffic hauled by trucks. At the interprovincial level, the largest movements were between Ontario and Quebec (11.7 billion tonne-kilometres), representing almost 22 per cent of total interprovincial trade by for-hire trucks in volume. At the transborder level, the heaviest traffic flows involved those between Ontario and the U.S. central region (19.3 billion tonne-kilometres), and Ontario and the U.S. southern region (12.7 billion tonne-kilometres). For additional information on volume and trucking flows, please see tables A7-10 to A7-13 in the Addendum.

CANADA–U.S. BORDER CROSSING ACTIVITY

Heavy truck activity across the Canada–U.S. border grew almost two per cent in 2004. This returned activity to the 2002 level of nearly 13.5 million two-way trips but it was still short of the peak level of 13.6 million trips in 2000. This is the fourth straight year that crossing activity has remained below the 2000 peak. The levelling off of activity likely reflects uncertain economic conditions persisting after 9/11 and the strong appreciation of the Canadian dollar in 2004. Car crossings were off another one per cent from 2003 to fall below 60 million trips, the lowest level since 1986.

Addendum Tables A7-14 and A7-15 compare activity at the 20 largest border crossings from 2000 to 2004 for trucks and cars/other vehicles, respectively.

PRICE, PRODUCTIVITY, FINANCIAL PERFORMANCE

TRUCKING INDUSTRY

In 2003, the revenues of trucking firms rose by 6.7 per cent to reach \$21 billion, just below the annual average of 6.9 per cent from 1998 to 2003. Trucking rates increased on average by 2.9 per cent and output grew by an estimated 3.1 per cent, compared with a 4.3 per cent annual increase over the 1998 – 2003 period. Both domestic and transborder traffic rebounded from their 2002 decreases, jumping 0.8 and 4.5 per cent, respectively.

Total factor productivity in the trucking industry fell by 0.9 per cent in 2003. This second consecutive decrease in productivity has reduced annual productivity gains to less than one per cent over the 1998 – 2003 period. Unit costs rose by four per cent in 2003, higher than the 2.4 per cent average annual increase since 1998.

In 2003, the average industry operating ratio reached 94.9 per cent, slightly higher than the average ratio of 94.4 for the 1998 – 2002 period.

URBAN TRANSIT SYSTEMS

In 2003, revenues (excluding subsidies) of urban transit carriers rose by 4.6 per cent. Alberta carriers registered the strongest growth, at 10.6 per cent, due to increases in both prices (5.1 per cent) and output (5.3 per cent). Overall, total transit output in Canada increased by 1.8 per cent while prices rose by 2.8 per cent.

Transit systems remain among the most labour- and capital-intensive of all transport industries. These two factors of production represented 50 and 29 per cent of total costs, respectively.

In 2003, total factor productivity of transit systems increased by 0.5 per cent. Improvements in fuel and labour efficiency of 9.0 and 3.5 per cent, respectively, managed to offset productivity declines in capital (1.0 per cent) and in other factors of production (7.2 per cent).

Transit costs per unit of output rose by 5.4 per cent in 2003. Since 1998, total unit costs have increased by 15.4 per cent, for an annual average increase of 2.9 per cent.

The total cost of transit systems was estimated at \$5.4 billion in 2003. Cost recovery was measured at 42.3 per cent, slightly below the level of the previous three years. Annual operating subsidies rose to \$1.8 billion, \$216 million above the average of the previous three years. Capital subsidies increased by 22 per cent to \$873 million.

Cost recovery ratios for 2003 were 44.8 per cent in Ontario, 41 per cent in Quebec, 39.3 per cent in British Columbia and 33.8 per cent in Alberta. Urban transit operations in the rest of Canada (ROC), which accounts for only five per cent of overall transit revenues, consistently show higher cost recoveries rates than the four selected provinces. This ratio has been hovering around 50 per cent since 1996 and was 48.8 per cent in 2003. Table 7-11 provides details on the performance of transit systems for selected regions in 2003.

**TABLE 7-11: SELECTED PROVINCIAL SYSTEMS
INDICATORS, 2003**

	<i>Quebec</i>	<i>Ontario</i>	<i>Alberta</i>	<i>B.C.</i>	<i>Canada</i>
Price levels (Canada = 100)	87.2	117.7	74.4	94.0	100.0
Total unit cost (Canada = 100)	90.0	111.2	93.2	101.3	100.0
Cost recovery (in %)	41.0	44.8	33.8	39.3	42.3
Revenue shortfall per passenger (\$)	1.55	2.22	2.39	2.48	2.02

Source: Transport Canada, based on Statistics Canada and CUTA information

*In 2003, marine freight traffic was up 8.5 per cent from 2002
as a result of increases in domestic flows, Canada-U.S. traffic and in overseas traffic.*

MAJOR EVENTS IN 2004

LEGISLATIVE AND REGULATORY CHANGES AND INITIATIVES

CANADA SHIPPING ACT AND REGULATORY REFORM UNDER THE CANADA SHIPPING ACT, 2001

Although the *Canada Shipping Act, 2001* (CSA 2001) received Royal Assent on November 1, 2001, the Act does not actually come into force until the regulations needed in support of it are in place.

These regulations are being dealt with in two phases. In Phase 1, more than 50 existing regulations are being reformed and streamlined into 17. In Phase 2, the remaining regulations are being modernized to be consistent with the requirements of the new Act. The CSA 2001 will come into force once the regulations being developed in Phase 1 have been completed; this is expected by the end of 2006. Until then, the existing *Canada Shipping Act* (CSA) and its related regulations remain in full force and effect.

The CSA is the principal piece of legislation governing personal safety and environmental protection in Canada's marine sector. It applies to Canadian vessels operating anywhere and to foreign vessels operating in Canadian waters. By way of two Orders in Council, one in December 2003 and one in March 2004, the Governor in Council, on the recommendation of the Prime Minister, transferred CSA legislative and regulatory responsibilities relating to pleasure craft safety, marine navigation services, pollution prevention and response, and navigable waters, from Fisheries and Oceans Canada to Transport Canada.

With these added responsibilities, Transport Canada conducted cross-country public consultations throughout 2004 on the regulations being developed in Phase 1. These consultations took place primarily at the spring and fall regional and national meetings of the Canadian Marine Advisory Council (CMAC). Several of the individual projects have also conducted outreach sessions with stakeholders at various strategic locations across Canada. By the end of 2004, the Regulatory Reform Project's formal consultation phase had, for the most part, concluded. There will still be a few individual projects consulting in the spring of 2005, but most have now finished formal consultations and are moving into the legal drafting phase.

The 17 streamlined regulations to come out of Phase 1 include Administrative Monetary Penalties, Ballast Water, Boating Restrictions, Cargo, Collision, Competency of Operators of Pleasure Craft, Environmental Response, Fire Safety, Fishing Vessel Safety, Heritage Wreck, Load Lines, Marine Personnel, Pleasure Craft, Prevention of Pollution from Vessels, Small Commercial Vessels, Vessel Clearance, and Vessel Registration and Tonnage. For more information on the CSA 2001 Regulatory Reform Project, visit www.tc.gc.ca/marinesafety/menu.htm.

MARINE LIABILITY ACT

Compulsory insurance for commercial passenger vessels

On August 8, 2001, the Government of Canada enacted the *Marine Liability Act* (MLA) under Chapter 6 of the Statutes of Canada. The MLA consolidated various maritime liability regimes, including those for passengers, goods and pollution.

In early 2003, Transport Canada began consultations on the development of a compulsory insurance regime for vessels that carry passengers for commercial or public purposes, as per Section 39, Part 4 of the MLA. Transport Canada announced its position on the development of a compulsory insurance regime in August 2003 and is now developing appropriate regulations.

Ship Source Pollution Prevention — Transport Canada, Environment Canada and the Department of Fisheries and Oceans are co-operating to address a variety of issues related to the prevention of ship source pollution, including: accelerating the phase-out of single-hulled tankers; eliminating sub-standard ships; introducing a “green ship” program for Canada; seeking higher penalties from courts for ship-source pollution; optimizing surveillance and enforcement efforts; and improving shore waste reception facilities. New regulations under the CSA 2001 will expand existing provisions for sewage and air pollution, update provisions for garbage, and introduce new requirements for anti-fouling systems and ballast water discharges.

SUPPLEMENTARY FUND PROTOCOL

In May 2003, the International Maritime Organization (IMO) adopted a Protocol to the 1992 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (1992 Fund Convention). The Protocol establishes a voluntary Supplementary Fund, which provides a third layer of compensation for claimants of oil pollution damages in states that ratify the Protocol. Claimants are now entitled to compensation up to \$1.5 billion per incident, almost four times the current \$400 million maximum. As Canada is a party to the 1992 Fund Convention, it is considering adoption of the new Protocol based on national consultations in 2005 to be followed by a Cabinet decision on ratification. Currently, Transport Canada is preparing a discussion paper for these consultations.

NATIONAL MARINE CONFERENCE

Transport Canada, with the help of the St. Lawrence Economic Development Council, the St. Lawrence Shipoperators Association and the Chamber of Maritime Commerce, hosted its second National Marine Conference in November 2004 in Montreal. The theme of the conference was “Shortsea Shipping: The Marine Contribution to Intermodal Transportation.”

Shortsea shipping refers to the movement of cargo and passengers by water over relatively short distances and without crossing any oceans. Essentially, it is coastal and inland shipping, but it can include crossborder trade with the United States and Mexico.

The conference investigated how the marine mode can better coordinate with other modes in order to stimulate shortsea shipping opportunities in Canada. A wide range of public and private decision-makers, as well as transportation industry stakeholders, exchanged views on how to better use and integrate shortsea shipping. These included issues related to modal integration, market feasibility, regional and international perspectives, and public policy considerations.

SECOND JOINT MINISTERIAL CONFERENCE OF THE PARIS AND TOKYO MEMORANDA OF UNDERSTANDING (MOU) ON PORT STATE CONTROL

The international conference took place on November 2-3, 2004, in Vancouver, British Columbia. The event marked the second time that Canada brought together member countries of the Paris and Tokyo MOUs, and MOU observer states and organizations, to focus on issues related to port state control. The first such conference was held in March, 1998.

The purpose of the conference was the signature by the Paris and Tokyo MOU members and observers of a Ministerial Declaration that detailed new measures to be implemented by administrations in their continuing efforts to eliminate sub-standard ships worldwide. The Declaration focussed on the development and implementation of standards to promote a wider safety and security culture throughout the entire maritime industry; to protect the global maritime environment; and to safeguard crews with respect to their living and working conditions on board ships.

STAKEHOLDER ENGAGEMENT

Transport Canada undertook several studies and initiatives in 2004 to evaluate a comprehensive range of issues, factors and trends driving marine competitiveness and market challenges, both on the domestic and international fronts. One of the major goals of these studies was to promote a more efficient and effective marine transportation system in Canada by strengthening partnerships with marine industry stakeholders through maintained and enhanced continuous dialogue and information sharing.

NATIONAL MARINE AND INDUSTRIAL COUNCIL

An industry–government forum, the National Marine and Industrial Council, was established to promote awareness of the benefits of the Canada marine industry as an economic generator, and to provide a venue for discussing marine policy issues with leaders from the marine industry and deputy ministers of departments that have direct influence on the marine transportation sector.

The Council is made up of industry executives and federal government senior officials. The deputy ministers of Transport Canada, Industry Canada, Fisheries and Oceans Canada, and International Trade Canada represent the federal government. Industry representatives include cargo shippers, domestic and international shipowners, port operators and marine service providers from across the country. The inaugural meeting was held in May 2004 in Ottawa. A subsequent meeting was held in September 2004 in Montreal.

MARINE ATLANTIC ADVISORY COMMITTEE

In November 2004, an advisory committee was formed to study a wide range of issues and to identify long-term strategies for stabilizing Marine Atlantic's ferry service operations. The Committee held consultations with both stakeholders and representatives from Marine Atlantic in January 2005 and is expected to provide a final report to the Minister of Transport.

MARINE INDUSTRY BENEFITS STUDY

Transport Canada, in partnership with Canada's major marine industry associations, completed an evaluation of the economic impact of marine transportation in Canada. The Marine Industry Benefits Study investigated the sector's contribution by drawing on economic models that show the direct, indirect and induced impacts of its significant contribution to the Canadian economy.

CANADA MARINE ACT REVIEW

Transport Canada used the results of these studies and initiatives — along with other endeavours undertaken in collaboration with industry and government partners — to help support the Government of Canada's assessment of future amendments to the *Canada Marine Act* (CMA). The CMA streamlined marine legislation governing services provided by the federal government in the marine sector, allowed the establishment of Canada Port Authorities and the continued divestiture of certain harbour beds and port

facilities, and facilitated the commercialization of the St. Lawrence Seaway. It also contained provisions for further commercializing federal ferry services and for pilotage operations.

INFRASTRUCTURE

CANADA'S PORTS AND HARBOURS SYSTEM

Canada's ports and harbours provide crucial links between economic activities and otherwise inaccessible markets. Canada's major ports are vital gateways in the national transportation system, connecting with both the rail and road networks.

Following the announcement of the National Marine Policy, the federal government initiated a plan to reorganize Canada's ports system in December 1995. It has since implemented a restructuring process to commercialize marine infrastructure. The National Marine Policy, which has been realized through the Canada Marine Act (CMA), specifies three categories of ports to facilitate this restructuring: (1) Canada Port Authorities (CPAs), (2) regional/local ports, and (3) remote ports.

Under the National Marine Policy, 19 major Canadian ports have been deemed vital to Canada's domestic and international trade. The following Canada Port Authorities have also met criteria pertaining to financial self-sufficiency, diversified traffic and intermodal connections: Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax. These include former Canada Ports Corporation's major divisional ports as well as former harbour commissions. Independently managed, these 19 CPAs are essential links in Canada's domestic and international trade. The Port of Oshawa remains the last harbour commission operating in Canada.

CPAs are incorporated by Letters Patent for the purpose of operating a particular port. As agents of the Crown under the CMA for certain purposes, CPAs possess the power to engage in activities related to shipping, navigation, transporting passengers and goods, and handling and storing goods. CPAs may also engage in other activities deemed in the Letters Patent to be necessary to support port operations, although they are not agents of the Crown with respect to these activities.

Letters Patent are issued to grant a special right, in this case the right to operate and manage a port. CPAs cannot issue shares. They may be given Crown land to operate and manage, but not to own. They may, however, acquire and own land in their own name. In order to cover costs, CPAs have the authority to establish fair and reasonable fees for use of the facilities or services provided at the port. They may not discriminate among users of the port, but they may differentiate in their fees and services based on the volume or value of goods or on any basis that is generally commercially accepted.

CPAs are required to demonstrate public accountability. Each board of directors is composed of between seven and eleven members, as set out in the CMA. (All CPAs have seven members, except for Vancouver, which has nine). Each board is responsible for appointing the officers of the CPA. A majority of each board is appointed in consultation with port users. In addition, the federal and respective provincial and municipal governments each appoint one director.

The majority of Transport Canada-owned ports are regional/local ports, which range from ports with a high volume of regional and local traffic to smaller ports with little or no commercial activity. In accordance with the Port Divestiture Program, the federal government is terminating its operational and ownership interests in regional/local ports by transferring them to other federal departments, provincial governments or local interests, including municipal authorities, community organizations or private interests.

Transport Canada continues to administer remote ports that serve as the primary transportation portals for isolated communities. Transport Canada will retain control and administration of such facilities unless local stakeholders are willing to take over ownership of them.

PORT DIVESTITURE

The Port Divestiture Program was originally scheduled to end on March 31, 2002; however, it has been extended by Cabinet until March 31, 2006. Therefore, Transport Canada will continue to transfer ownership and operations of its regional/local ports. Giving local communities more control over port operations is part of the federal government's efforts to modernize Canada's marine system by instilling commercial discipline and efficiency. This will ultimately lead to a more effective and efficient port system with local accountability. By having greater autonomy, ports will be able to apply more effective business principles at the same time as they promote employment and economic growth. Once ports have been transferred, Transport Canada ends its operational role, which includes directly enforcing regulations, collecting user fees, and monitoring port operations.

Of the 549 public ports and port facilities originally controlled and administered by Transport Canada before the National Marine Policy came into force, 457 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2004, Transport Canada still had 92 sites under its control. In addition, there are 18 sites where facilities have been transferred but cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2004.

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2004

	<i>Federal</i>	<i>Provincial</i>	<i>Local</i>	<i>Total</i>
Federal Agency Ports				
Canada Port Authorities	19	N/A	N/A	19
Harbour Commissions	1	N/A	N/A	1
Ports Operated by Transport Canada				
Regional/Local	66	N/A	N/A	66
Remote	26	N/A	N/A	26
Ports Transferred¹				
From Transport Canada	65	40	116	221
Status of other former Transport Canada Ports				
Demolished	7	N/A	N/A	7
Interests terminated	18	N/A	N/A	18
Deproclaimed ²	211	N/A	N/A	211

Note: Additional detailed information on ports is presented in tables A8-1 and A8-2 in the Addendum, including a summary of the provincial distribution of the ports administered by Transport Canada from 1996 to 2004 and a summary of the divestiture status of regional/local and remote ports on a regional basis.

N/A = Not available.

1 Includes 18 sites where facilities have been transferred but harbour bed has not yet been deproclaimed, 64 sites that were transferred to the Department of Fisheries and Oceans and one site that was transferred to Health Canada.

2 Public Harbours deproclaimed between June 1996 and March 1999.

Source: Transport Canada

As of December 31, 2004, 65 sites had been transferred to other federal departments and 40 to provincial governments, while 116 sites were divested to local interests. In addition, 25 sites have either been demolished or have had Transport Canada's interest terminated (through lease or licence terminations).

Since the start of the program, 271 public ports have been deproclaimed. Of this number, archival research identified a further 26 harbours in addition to the original 549 port sites identified in the National Marine Policy. Transport Canada continues to administer 66 regional/local ports and 26 remote ports nation-wide.

FINANCIAL PERFORMANCE

This section used results for 2003 because audited financial statements of Canada Port Authorities for 2004 were not available in time. In addition, some 2002 figures have been restated to reflect changes in accounting policies, as reported in the 2003 audited financial statements. For detailed financial information, see Addendum tables A8-3 to A8-5.

Generally, 2003 was a positive year for most CPAs. In 2003, CPAs had total operating revenues of \$299 million, a nine per cent increase over the 2002 total of \$275 million. Vancouver and Montreal accounted for approximately 57 per cent of this total. Eleven of the 19 CPAs reported an increase in revenues, ranging from \$0.05 million to \$7.6 million. Halifax and Vancouver reported the highest increases, at \$7.6 million (41 per cent) and \$7.5 million (seven per cent), respectively.

Overall expenditures increased by \$15.9 million, with individual increases ranging from \$0.03 million to \$9.2 million. Only five CPAs reported decreases, ranging from \$0.05 million to \$1.51 million.

The overall operating ratio for the CPAs was approximately 79 per cent in 2003. Individual ratios ranged from 42 to 157 per cent. The return on assets stood at three per cent. Trois-Rivières (15 per cent) and Saguenay (14 per cent) had the highest return on assets.

In 2003, five of the nineteen ports reported increases in their net income, ranging from \$0.3 million to \$3.8 million, for a combined increase of \$8.4 million. The ports reporting decreases had a combined loss of \$5.8 million, with ranges of \$0.02 million to \$1.5 million. While the majority of CPAs have relied on operating revenues to fund capital projects, Transport Canada has recently experienced an increase in the number of requests by CPAs for expanded borrowing limits. This indicates that a large number of CPAs are planning to make significant capital investments in coming years. For example, the

Port of Vancouver is planning for investments of over \$1 billion in the next ten years to accommodate growing container trade with Asia. The Minister of Transport recently issued Supplementary Letters Patent to increase Vancouver's borrowing limit to \$510 million from its former limit of \$225 million.

Tonnage for CPAs increased from 215 million tonnes in 2002 to 227 million tonnes in 2003. Five CPAs accounted for 69 per cent of total cargo by volume: Vancouver (30 per cent), Saint John (11 per cent), Sept-Îles (10 per cent), Montreal (9 per cent) and Quebec City (nine per cent). The revenues per tonne increased from \$1.30 in 2002 to \$1.31 in 2003, while expenses per tonne increased from \$1.03 to \$1.04.

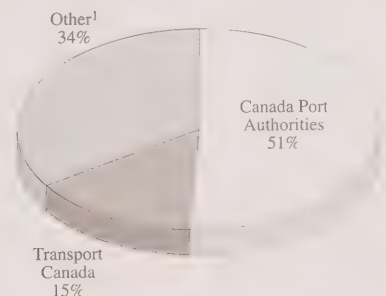
At public ports still under Transport Canada control, gross revenues in fiscal year 2003/04 were \$12.4 million, while expenses were \$21.8 million. Capital expenditures were \$5.4 million, while \$1.7 million was spent in grants and contributions for port divestiture transfers. The result was a total net loss of \$16.5 million in 2003/04. Addendum Table A8-6 provides details.

PORT TRAFFIC

Based on preliminary data provided by Statistics Canada, Canada's ports handled 443 million tonnes of cargo in 2003 (latest available data), up about nine per cent from 2002.

Figure 8-1 shows traffic shares by port groups in 2003, based on port classification as of December 31, 2003.

FIGURE 8-1: TRAFFIC SHARES BY PORT GROUPS, 2003



1 Includes Fisheries and Oceans Canada, provincial and municipal governments, and private facilities.

Source: Statistics Canada

Actual traffic (cargo handled) at some CPAs in 2003 included: Halifax, 14.2 million tonnes; Montreal, 20.3 million tonnes; Prince Rupert, 4.0 million tonnes; Quebec City, 20.3 million tonnes; Saguenay, 0.44 million tonnes; Saint John, 25.9 million tonnes; Sept-Îles, 22.7 million tonnes; Thunder Bay, 7.8 million tonnes; Toronto, 1.8 million tonnes; Vancouver, 67.9 million tonnes; and Fraser River, 13.7 million tonnes.

CPAs handled 227 million tonnes, the largest amount of port traffic in 2003. This accounted for 51 per cent of the total. Transport Canada facilities moved 66 million tonnes of cargo, which accounted for 15 per cent of the total. The “other” facilities — which includes those managed privately, those managed by or on behalf of the Department of Fisheries and Oceans and those managed by provincial and municipal governments — handled 148 million tonnes, or 34 per cent of the total cargo. In this category, Come-By-Chance, Newfoundland, with approximately 43.7 million tonnes, handled the most cargo, followed by Port Hawkesbury, Nova Scotia, with 22.9 million tonnes. The one port still classified as a Harbour Commission as of December 31, 2003, handled approximately 180,000 tonnes. The remaining 170 ports reporting cargo tonnage to Statistics Canada handled the balance of cargo. (See Addendum Table A8-7.)

SMALL CRAFT HARBOURS PROGRAM

Fisheries and Oceans Canada

The Small Craft Harbours Program (SCH) at the Department of Fisheries and Oceans currently owns 1,240 harbours across Canada, 1,007 fishing harbours and 233 recreational facilities. The department's long-term objective is to retain only core active fishing harbours. About 750 are targetted to be kept by the program in the regions. Other harbours (i.e., all recreational and low-activity inactive fishing) will be divested.

Fishing harbours

Since the late 1980s, the SCH program has supported the creation of local harbour authorities (HA) to manage the commercial fishing harbours in their communities. The SCH leases the harbour to the harbour authorities, which are local, non-profit organizations, made up of fishers and other harbour users that provide services, maintenance and harbour management. As of December 31, 2004, harbour authorities managed 679 sites across Canada, about 91 per cent of the SCH program target. Fishing harbours not generating enough community interest to form a harbour authority will be divested or, if necessary,

demolished. Such harbours usually have little or no activity and a negligible impact on the commercial fishing industry or the community at large. To date, 286 fishing harbours have been divested and 84 are in the final stage of divestiture.

Table 8-2 shows how many fishing harbours remained in the SCH portfolio as of December 31, 2004, by region and type of management.

TABLE 8-2: SCH FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF DECEMBER 31, 2004			
	Harbour Authorities	Small Craft Harbours	Total by Region
British Columbia ¹ and Yukon ²	72	76	148
Central and Arctic ²	32	37	69
Quebec	50	34	84
Maritimes and Gulf	281	48	329
Newfoundland and Labrador	244	133	377
Total	679	328	1,007

1. Totals include 47 mooring buoy sites in British Columbia.
2. There are no Harbour Authorities in Northwest Territories, Nunavut or the Yukon.

Source: Small Craft Harbours, Department of Fisheries and Oceans

Recreational harbours

The SCH program intends to divest all 845 recreational harbours originally in its inventory. Since 1994/95, the SCH has divested, or is in the final stages of divesting, 647 recreational harbours (77 per cent of its original total). The SCH disposal strategy, approved by Treasury Board in 1995, permits disposals at a consideration of \$1.00, subject to conditions that include a requirement to maintain public access for at least five years. Before a harbour is transferred, environmental assessments and reasonable repairs are done to ensure it is transferred in a safe and reasonable condition. Recipients are mainly municipalities, local non-profit organizations, First Nations or other federal departments. In the absence of a public body interested in acquiring the facilities, they are offered at market value to the general public. As a last resort, if there is neither public nor private interest in the facilities, they are demolished. The recreational harbour divestiture program is expected to continue for several more years.

Tables 8-3 to 8-5 summarize, by region, the status of the SCH recreational harbour divestiture program (Table 8-3), recipients of harbours divested (Table 8-4) and type of management of the harbour sites still in the SCH inventory (Table 8-5).

TABLE 8-3: SCH RECREATIONAL HARBOURS DIVESTED BY REGION, AS OF DECEMBER 31, 2004

	Fully Divested 1995/2003	Fully Divested 2004/05	Final Stage of Divestiture	Total Divested	Remainder to be Divested	Regional Total
British Columbia and Yukon	53	1	2	56	9	65
Central and Arctic	268	5	14	287	158	445
Quebec	201	4	19	224	28	252
Maritimes and Gulf	78	0	1	79	1	80
Newfoundland and Labrador	1	0	0	1	1	2
National Totals	601	10	36	647	197	844

Source: Small Craft Harbours, Department of Fisheries and Oceans

TABLE 8-4: RECIPIENTS OF DIVESTED SCH RECREATIONAL HARBOURS, AS OF DECEMBER 31, 2004

	Province ¹	Municipality	Private Sector	Other ²	Total by Region
British Columbia and Yukon	51	1	1	3	56
Central and Arctic	18	199	20	50	287
Quebec	3	176	2	44	225
Maritimes and Gulf	4	19	4	51	78
Newfoundland and Labrador	0	1	0	0	1
Total	76	396	27	148	647

1 Just over half of these properties were subject to provincial reversionary interests.

2 "Other" in the context of the divestiture of recreational harbours refers to sites that have been transferred to local non-profit organizations, First Nations or other federal departments, as appropriate.

Source: Small Craft Harbours, Department of Fisheries and Oceans

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2004

(Thousands of dollars)			
Pilotage Authority	Revenues	Expenditures	Net Income (Loss)
Atlantic Pilotage Authority (APA)	16,438	15,463	975
Laurentian Pilotage Authority (LPA)	51,335	54,722	(3,387)
Great Lakes Pilotage Authority (GLPA)	13,820	15,902	(2,082)
Pacific Pilotage Authority (PPA)	45,067	45,666	(599)
Total Pilotage Authorities	126,660	131,753	(5,093)

Source: Pilotage Authorities' draft Annual Reports

TABLE 8-5: SCH RECREATIONAL HARBOURS BY MANAGEMENT TYPE, AS OF DECEMBER 31, 2004

	Managed Under Lease	Small Craft Harbours	Other ¹	Total by Region ²
British Columbia and Yukon	2	0	7	9
Central and Arctic	107	40	11	158
Quebec	3	25	0	28
Maritimes	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	112	67	18	197

1 "Other" refers to a variety of management and non-management situations. Some construction works, such as shoreline reinforcement or breakwaters, are largely stable and do not require ongoing management. Some facilities are part of a larger development (i.e. a marina) and are managed as part of that development. In other cases, facilities no longer exist at the site and there is nothing to manage.

2 Remaining recreational harbours in small craft harbours inventory as of December 31, 2004.

Source: Small Craft Harbours, Department of Fisheries and Oceans

MARINE PILOTAGE

In Canada, regional pilotage authorities direct and control navigation and/or ship handling of vessels through coastal and inland waterways in a safe and efficient manner. Each authority responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region. There are four regional pilotage authorities in Canada: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA).

In 2004, the LPA, GLPA and PPA each experienced a deficit. This resulted in a combined loss for the four pilotage authorities of just over \$5 million, following a positive balance in 2003. The LPA suffered a loss due to an unfavourable service contract awarded by an arbitrator. The GLPA also lost money due to traffic reduction and the unfavourable rate of exchange between the Canadian and U.S. dollars. The PPA late tariff implementation resulted in a \$599,000 shortfall. The APA maintained a net income for the third year in a row. Table 8-6 shows the financial results for the four pilotage authorities in 2004.

Based on the average number of assignments per pilot, the efficiency of pilotage services generally increased between 2003 and 2004. The variations between the authorities and from year to year are related to traffic levels. Assignments for the APA, LPA and PPA have increased, but have decreased for the GLPA. Overall, there were slightly more assignments in 2004 than in 2003.

Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2004. For information on other years, see Table A8-8 in the Addendum.

TABLE 8-7: TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2004

<i>Pilotage Authority</i>	<i>Indicators</i>	<i>2004</i>
Atlantic (APA)	Pilots	54
	Total Assignments	11,848
	Assignments Per Pilot	219
Laurentian (LPA)	Pilots	170
	Total Assignments	20,439
	Assignments Per Pilot	120
Great Lakes (GLPA)	Pilots	62
	Total Assignments	6,628
	Assignments Per Pilot	107
Pacific (PPA)	Pilots	110
	Total Assignments	13,002
	Assignments Per Pilot	110
Total All Authorities	Pilots	396
	Total Assignments	51,917
	Assignments Per Pilot	131

Source: Pilotage Authorities' 2004 draft annual reports

CANADIAN COAST GUARD

The Canadian Coast Guard (CCG) is an integral part of the Department of Fisheries and Oceans. The CCG ensures the safe and environmentally responsible use of Canada's waters. It does so through six major sub-activities: aids and waterways services; marine communications and traffic services; icebreaking services; search and rescue services; environmental response services; and fleet services. These sub-activities encompass a variety of marine programs and services. They also benefit a broad cross-section of marine clients, including commercial shipping interests, recreational boaters, the fishing industry, and provincial, municipal and territorial governments, as well as other federal government departments and marine associations.

The CCG's Aids and Waterways Services (AWS) provides safe, efficient and accessible waterways through the operation and maintenance of a system of navigational aids for mariners. It also provides waterway development and maintenance services to ensure safe and environmentally compliant channels for commercial navigation.

All Marine Communications and Traffic Services (MCTS) functions are based on regulations pursuant mainly to the Canada Shipping Act and the Safety of Life at Sea Convention. MCTS provides distress and safety communications and coordination; screens vessels to prevent unsafe vessels from entering Canadian waters;

regulates vessel traffic movements; and manages an integrated system of marine information and public correspondence services. Along with ensuring safe marine navigation, MCTS also supports economic activities by optimizing traffic movements and port efficiency, and facilitating industry ship-shore communications.

Under its MCTS functions, the Coast Guard has developed installation strategies for an Automatic Identification System (AIS). This leading-edge marine navigation technology allows the Coast Guard to identify and track vessels approaching and operating in Canadian waters in "near real-time."

Following the events of September 11, 2001, the Canadian and U.S. coast guards established an advance notification requirement for vessels entering Canadian/American waters. This allows both countries to enhance public safety, security and the uninterrupted flow of commerce. Vessels over 300 gross tonnage inbound to Canadian waters must file an Offshore Advance Report with Canadian authorities 96 hours before entering Canadian waters from seaward.

The Icebreaking Services provides icebreaking operations, including route assistance, flood control, harbour breakouts, Northern resupply and, with the presence of icebreakers in the North, maintenance of Canada's sovereignty. The Icebreaking Services also offers ice-routing and information services such as ice reconnaissance and an ice operations centre for tasking icebreakers and ice routing advice. All of these activities are for marine traffic navigating through or around ice-covered waters and for the general public. Under its icebreaking activities, the CCG provides a wide range of client-focused, demand-driven services under which commercial users pay a percentage of allocated costs in the form of an icebreaking service fee.

The Search and Rescue Services (SAR) provides a search and rescue function to save and protect lives in the maritime environment within the Canadian SAR area of responsibility. A SAR service is defined as the performance of distress monitoring, communication, coordination, and search and rescue activities through the use of public and private resources.

The Environmental Response Services (ER) protects the marine environment and related interests through preparedness and monitoring and by responding to marine pollution incidents in waters under Canadian jurisdiction. The Coast Guard serves the general public through its role in preserving ecosystems, ensuring that water supplies remain unpolluted by oil and chemical spills, and protecting recreational resources.

In 2004, the focus was on the creation of the Canadian Coast Guard as a Special Operating Agency (SOA). Although effective as of December 12, 2003, the steps to implement the change needed to be defined and a framework document developed and approved by Treasury Board. The change was implemented on April 1, 2005. In addition, the transfer of responsibilities for marine safety and security policies to Transport Canada, achieved through an Order in Council, had a significant impact on how the Coast Guard was to conduct its remaining services.

Another of the Coast Guard's functions is to acquire, maintain and schedule Fisheries and Oceans Canada's (DFO) fleet and the equipment needed for delivering core marine services to Canadians. This includes dealing with such matters as fleet operational requirements and planning; vessel resource allocation; resource utilization and redeployment; fleet management support; related management information systems; vessel crewing; fleet performance management and costing systems; and management roles and accountabilities. Physical assets of the Canadian Coast Guard are valued at approximately \$5 billion. The CCG Technical Program will ensure that these assets are capable, reliable and available to carry out the Coast Guard's vision and mission.

Over the past several years, the CCG has introduced three commercial user fees: the marine navigation service fee, in June 1996; the transit-based icebreaking services fee, in 1998; and the maintenance dredging services tonnage fee, in September 1997. For more information on the CCG functions, visit www.ccg-gcc.gc.ca.

Financial Profile

Table 8-8 shows the Coast Guard's financial results for the previous four fiscal years. Results for 2004/05 reflect forecast expenditures to fiscal year-end and will not be finalized until the end of the fiscal year.

In compliance with the Government of Canada's cost recovery policy, the Coast Guard began several years ago to recover part of the costs it incurs in providing services to industry.

- In June 1996, the CCG introduced the Marine Navigation Services Fee, which was targeted to collect \$27.7 million annually, including administrative costs.
- In 1998, the CCG introduced a transit-based Icebreaking Services Fee, which was targeted to collect \$13.8 million annually, including administrative costs.
- The Maintenance Dredging Services Tonnage Fee, established in September 1997, was originally intended as an interim measure to cover the full costs incurred by the CCG in providing maintenance dredging services in the St. Lawrence Ship Channel. The Coast Guard continues to work with representatives from the commercial marine transportation industry to arrive at a long-term arrangement, inducing the transfer of responsibilities to industry for these dredging services.

Table 8-9 shows the Coast Guard's revenues and expenditures by its main sub-activities for fiscal year 2004/05. Both revenues and expenditures are forecasts only and will not be finalized until the end of the fiscal year.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND EXPENDITURES, 2001/02 – 2004/05

(Millions of dollars)

	2001/02	2002/03	2003/04 ¹	2004/05 ²
Revenue	35.5	37.0	37.4	39.0
Gross Expenditures	475.3	498.0	504.5	510.0
Net Expenditures	439.8	461.0	467.1	471.0

1 Figures are significantly different from last year's Annual Report because last year's forecast included expenditures later allocated to Science & C&P for the public accounts. An estimate of this allocation for 2004/2005 has been removed from the Coast Guard's Period 9 gross forecast. Present figures do not include the Coast Guard College.

2 Figures include amounts related to the Coast Guard College, which was transferred to the Coast Guard as of April 1, 2004.

Source: Department of Fisheries and Oceans

ST. LAWRENCE SEAWAY

The St. Lawrence Seaway is a unique inland waterway that extends into the industrial heartland of North America and serves 15 major international ports and some 50 regional ports on both sides of the Canada–United States border.

TABLE 8-9: CANADIAN COAST GUARD PLANNED REVENUE AND EXPENDITURES, 2004/05

(Millions of dollars)

	AWS	MCTS	ICE	SAR	ER	College	Fleet
Revenues	29.2	0.2	13.8	0.2	0	3.7	0
Gross Expenditures	116.3	92.9	58.0	95.3	11.4	8.1	154.6
Net Planned Spending	87.1	92.7	44.2	95.1	11.4	4.4	154.6

Note: AWS: Aids and Waterways Services; MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; SAR: Search and Rescue Services; ER: Environmental Response Services; Fleet: Fleet Management Services.

Source: Fisheries and Oceans Canada

The Seaway includes two main sections; the Montreal–Lake Ontario (MLO) section and the Welland Canal section. The MLO section runs from Montreal to Lake Ontario and encompasses seven locks over 300 kilometres, five in Canada and two in the United States. The Welland Canal section joins Lake Ontario to Lake Erie and contains eight locks over 42 kilometres, all in Canada.

The locks, and the channels that connect them, accommodate vessels up to 225.5 metres long, 23.8 metres wide and 8 metres in draft. Combined, these 15 locks gradually raise vessels 183.2 metres above sea level, the height of a 60-storey building.

The St. Lawrence Seaway Management Corporation (SLSMC) is responsible for managing, operating and maintaining the navigational aspects of the Canadian portion of the Seaway. The SLSMC was established as a not-for-profit corporation by Seaway users and other interested parties. It assumed management of the Canadian Seaway on October 1, 1998, under a long-term agreement with the federal government pursuant to the Canada Marine Act. The SLSMC is authorized to charge tolls and generate other revenues to finance the operation and maintenance of the Seaway and to recover additional funds from the federal government to eliminate operating deficits when required.

The year 2004 marked the 46th shipping season for the Seaway and the seventh full year of management by the SLSMC. During the 2004 season, estimated combined traffic on the two sections of the Seaway was approximately 43.5 million tonnes, 5.3 per cent higher than in 2003. At 10.5 million tonnes, iron ore was again the main commodity shipped, despite dropping two per cent from 2003. Grain also experienced a slight drop (3.4 per cent) in volume carried, at 9.3 million tonnes. Significant gains were made in the movement of general cargo, principally iron and steel, and in other bulk cargo associated with the steel industry, such as coke and iron ore. Benefitting from the strength of the steel industry at home and the need for imported steel from abroad, overall volumes of general cargo totalled 4.3 million tonnes, up 67 per cent, while other bulk cargo totalled 15.2 million tonnes, up 9.4 per cent. Tables 8-10 and 8-11 show cargo movements and traffic by commodity, respectively, for 2003 and 2004. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

RATES AND TARIFFS

The SLSMC implemented a two per cent cargo toll and ship charge increase for the 2004 navigation season in both sections of the Canadian Seaway. This increase is in accordance with the management agreement between the SLSMC and the federal government, which stipulates annual tariff increases based on the lesser of the annual average percentage change in the Consumer Price Index or two per cent.

TABLE 8-10: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2003 AND 2004

(Thousands of tonnes)

Year	Montreal–Lake Ontario Section	Welland Canal Section
2003	28,900	31,870
2004 ¹	30,801	34,285

¹ 2004 figures are estimated.

Source: St. Lawrence Seaway Management Corporation

TABLE 8-11: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2003 AND 2004

(Thousands of tonnes)

Year	Grain	Iron Ore	General Cargo	Coal	Other	Total
2003	9,646	10,649	2,546	4,196	13,788	40,848
2004 ¹	9,322	10,459	4,252	4,230	15,203	43,482

Note: Combined traffic in the two sections of the Seaway.

¹ 2004 figures are estimated.

Source: St. Lawrence Seaway Management Corporation

FINANCIAL PROFILE

In fiscal year 2003/04¹ Seaway revenues from tolls and other sources totalled \$66.6 million, down slightly from \$66.8 million in 2002/03. Toll revenues fell 1.3 per cent to \$62.7 million, from \$63.5 million in 2002/03, reflecting reduced tonnage in steel and steel slab imports into North America.

Seaway operating expenses for 2003/04, related to the management and operation of the Seaway infrastructure, totalled \$59.2 million, up from \$58.4 million the previous fiscal year. Salaries, wages and benefits accounted for the major part of this total. Expenditures for the asset renewal program, representing the cost of maintenance and major repairs of lock, canals, bridges, buildings and other infrastructure assets, totalled \$24.3 million, up from \$22.9 million the previous fiscal year.

Table 8-12 shows the financial performance of the St. Lawrence Seaway from 2001/02 to 2003/04.

¹ Tolls in fiscal year 2003/04 are for traffic in the 2003 navigation season.

TABLE 8-12: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 2001/02 TO 2003/04

(Thousands of dollars)

<i>Year¹</i>	<i>Revenues</i>	<i>Expenditures</i>	<i>Excess of Revenues Over Expenses</i>	<i>Net Excess of Revenues Over Expenses²</i>
2001/02	65,730	79,120	(13,390)	(2,646)
2002/03	66,815	84,394	(17,579)	(4,015)
2003/04	66,555	86,247	(19,692)	(3,087)

¹ April 1 to March 31.² Following contribution from Capital Trust Fund.

Source: St. Lawrence Seaway Management Corporation

INDUSTRY STRUCTURE

Canada's marine industry includes a fleet of Canadian-flag operators that provide domestic and transborder shipping services. International trades are served largely by foreign-flag operators that call at Canada's major ports.

DOMESTIC SERVICES

The Canadian merchant fleet carried the majority of domestic shipments of bulk materials on the Great Lakes and along Canada's coastline. The fleet is defined here as self-propelled vessels of at least 1000 gross tons² flying the Canadian flag. By the end of 2004, it included 174 vessels and 2.1 million gross tons.

Although declining in number, dry bulk carriers remain the backbone of the Canadian merchant fleet, accounting for 53 per cent of tonnage and 35 per cent of vessels in 2004. The dry bulk fleet was made up of 61 vessels in 2004, including straight-deck bulkers dedicated mainly to grain transportation, and self-unloading vessels carrying various bulk commodities. By comparison, while the number of tankers decreased from 39 in 1984 to 20 in 2004, their capacity share increased from 11 to 20 per cent of total gross tonnage, due to the addition of larger units. In last 20 years, the capacity of ferries vessels also increased (from 10 to 18 per cent of total gross tonnage).

An extensive fleet of tugs and barges was also in operation at the domestic and international level. In 2004, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 322 tugs (126,000 gross tons) and around 500 active barges and scows (600,000 gross tons). Approximately seven per cent of the tug population had tonnage greater than 1000 gross tons and were used in offshore supply.

Table 8-13 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1984, 1994 and 2004.

TABLE 8-13: CANADIAN-REGISTERED FLEET BY TYPE, 1984, 1994 AND 2004

<i>Type of Carriers</i>	<i>Gross Tons (Thousands of tons)</i>			<i>Number of Vessels</i>		
	<i>1984</i>	<i>1994</i>	<i>2004</i>	<i>1984</i>	<i>1994</i>	<i>2004</i>
Dry bulk	1,898	1,351	1,135	118	76	61
Tankers	279	205	429	39	31	20
General cargo	102	77	132	23	13	22
Ferries	262	346	385	55	61	64
Other	101	33	40	8	7	7
Total	2,642	2,013	2,122	243	188	174

Note: Self-propelled vessels of 1,000 gross tons and over, including government owned ferries; excluding tugs used in offshore supply.

Source: Canadian Transportation Agency and Transport Canada

EASTERN CANADA

Freight services in eastern Canada, including the Arctic, are provided by a fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels. Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines are the three largest operators in the Great Lakes-St. Lawrence region.

There were no acquisitions or mergers among Great Lakes ship operators in 2004. However, a memorandum of cooperation between Algoma Central Corporation and Upper Lakes Group took effect on January 2, 2004. The new arrangement increases the scope of their Seaway Marine Transport (SMT) partnership by integrating the marketing, vessel traffic and administrative functions provided by SMT with the vessel management, purchasing, accounting and administrative functions of the respective fleets. SMT's scope of business also expanded to include water transportation services for all non-liquid cargo trades in the Great Lakes-St. Lawrence Waterway and Eastern Coast of Canada, including the Arctic. Highlighting this expanded scope, SMT entered into agreements with the acquisition of an equity interest in a U.S. corporation that acquired tug and barge assets in March 2004.

WESTERN CANADA

Domestic marine cargo services on the west coast are provided by a large tug and barge fleet. Most operators are involved mainly in the domestic trades but some also trade internationally between Canadian and U.S. ports.

² Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as deadweight tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

Washington Marine Group controls several of the largest tug and barge operations, including: Seaspan International Ltd., the largest Canadian tug and barge operator on the west coast; Cates Tugs; Norsk; and Kingcome Navigation Company, formerly owned by MacMillan Bloedel. Rivtow Marine Ltd. is the second-ranked tugboat company in British Columbia.

NORTHERN CANADA

In the Western Arctic, Northern Transportation Company Limited (NTCL) is the main marine operator for the Mackenzie River Watershed (including the Mackenzie River and Great Slave Lake), the Arctic coast and islands, and Alaska. Utilizing a fleet of tugs and dual-purpose barges, NTCL's principal concerns are bulk petroleum products and dry cargo for communities, defence installations, and oil and gas exploration sites across the North.

Formerly the purview of the Canadian Coast Guard, responsibility for the Eastern Arctic Sealift for dry cargo and bulk fuel was transferred to the Government of Nunavut at the beginning of 2001. Under the new arrangement, all Government of Nunavut departments, corporations, agencies and contractors must use the contracted carrier. As well, all other shippers requiring this service may ship under the same terms and conditions of the contract.

With multi-year contracts to 2006, dry cargo sealift for the Eastern Arctic continued to be supplied by Nunavut Sealink and Supply Inc. (NSSI) and Nunavut Eastern Arctic Shipping (NEAS) during the 2004 season. NSSI is a partnership between Transport Desgagnés and Arctic Cooperatives Ltd. that served the seven Kivalliq communities plus four Baffin Island communities. NEAS served the remaining 10 Baffin Island communities. The cargo was shipped from Montreal.

Also with multi-year contracts to 2005, the Woodward Group and NTCL continued to provide for the delivery of bulk fuel to the region. Utilizing two tankers travelling from Montreal and Churchill, the Woodward Group serviced the Baffin and Kivalliq regions in 2004. NTCL served the Kitikmeot region.

In addition to the Arctic Sealift for Nunavut communities, re-supply services to the Nunavik region are managed by the Quebec Ministry of Transportation. The James and Hudson Bay Cree are served out of Moosonee, with cargo originating in the Toronto region.

In 2004, Gardewine North, Hudson Bay Railway, The Port of Churchill and Moosonee Transportation Limited formed an alliance to provide sealift transportation to Kivalliq. Moosonee Transport, located in James Bay, leased two barges from NTCL to re-supply seven Kivalliq communities with dry cargo in the July–August time frame. Shippers were offered one single thru-rate for freight that encompasses a combination of truck, rail and marine transportation modes from either Thompson or Winnipeg (in Manitoba) to the Kivalliq Region in Nunavut. Moosonee completed eight sailings carrying approximately 5,000 tonnes of cargo.

Mining operations in the Arctic regions also have vessels calling with supplies inbound and carrying zinc and lead concentrates to world markets outbound.

INTERNATIONAL SERVICES

International marine freight transport includes bulk shipping and liner shipping. Bulk shipping is the transport of large volumes of homogeneous cargo, often in shiploads. Examples of Canadian bulk cargoes include coal, iron ore, grain and potash.

Bulk shipping services are provided under time charters (short-term and long-term contracts) and short-term "spot" or "tramp" contracts generally for a specified number of voyages or days or for a given quantity of cargo. The bulk shipping industry operates in a competitive market. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flagged ships.

Liner shipping is the transport of many individual consignments of cargo at fixed prices for each commodity on ships that operate regularly among ports of call on a scheduled basis. The cargo is often carried in standardized containers that can easily be transferred to trains or trucks for transport away from the port. Liner shipping is dominated by large fleets of specialized container vessels operating on major trade routes around the world.

Shipping lines calling at Canadian ports may provide liner services independently or as members of shipping conferences that adhere to rates and/or conditions of service under a conference agreement. Such practices are exempted from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA), which was amended in 2002.

By offering rates and services comparable with those of conference operators, independent shipping lines (also called non-conference carriers) contribute to a competitive international shipping industry. Shipping lines sometimes choose to be a conference member on certain routes and an independent operator on others.

Most of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews.

SERVICES AVAILABLE TO CANADIAN SHIPPERS

In 2004, the Canadian Transportation Agency had 15 shipping conference agreements on file. Conferences are no longer required to file their tariffs with the Agency.

Five of the conferences operate between Eastern Canada, Northern Europe and the Mediterranean. Major lines serving Canada as conference members include Atlantic Container Line, Canada Maritime Ltd., Hapag-Lloyd Container Line, P&O Nedlloyd, Mitsui O.S.K. Lines and Orient Overseas Container Lines.

Table 8-14 lists the 15 Conference Agreements on file with the Canadian Transportation Agency.

TABLE 8-14: SHIPPING CONFERENCES SERVING CANADA IN 2004

1. Canadian Continental Eastbound Freight Conference (E)
2. Canada–United Kingdom Freight Conference (E)
3. Continental Canadian Westbound Freight Conference (E)
4. Australia–Canada Container Line Association (E & W)
5. Mediterranean Canadian Freight Conference (E)
6. Canada/Australia–New Zealand Association Carriers (CANZAC) (E & W)
7. New Zealand–Canada Container Lines Association (E & W)
8. Canada Transpacific Stabilization Agreement (E & W)
9. Mediterranean North Pacific Coast Freight Conference (Canada) (W)
10. Canada/Australia–New Zealand Discussion Agreement (E & W)
11. Canada North Atlantic Westbound Freight Conference (E)
12. Canada Westbound Transpacific Stabilization Agreement (E)
13. Joint Mediterranean Canada Service Agreement (E)
14. Canadian Pacific/Latin American Freight Service (W)
15. Columbus/Maruba Working Agreement (W)

Notes: E = East Coast; W = West Coast

Source: Canadian Transportation Agency

Shippers benefit from competition between conference and non-conference carriers as well as from competition within conferences, due to provisions on independent action under the SCEA. These provisions allow individual conference members to offer rates or services that differ from those found in the conference agreement. Under the 2002 SCEA amendments, conference members now have to give five days' advance notice, instead of fifteen, to other conference members if it intends to take independent action.

The 2002 SCEA amendments also allow a conference member to sign service contracts with shippers without having to disclose the contract terms and conditions to other conference members. It further allows a conference and a shipper to negotiate and sign confidential, conference-wide service contracts. These contracts must, however, be filed with the Canadian Transportation Agency in order to comply with the SCEA.

In 2004, the Canadian Transportation Agency accepted filings for 15 service contracts,³ down from 25 in 2003 and 51 in 2002. The contracts applied to both inbound and outbound traffic and to origins and destinations on both the east and west coasts of Canada.

PASSENGER TRANSPORTATION

FERRY SERVICES

Most major ferry operators in Canada belong to the Canadian Ferry Operators Association (CFOA). However, Canada's ferry services are marked by wide differences in services, ownership and vessel type used. Owners range from small, private operators to provincial governments and federal Crown corporations. Terminals and docking facilities are also owned, leased and operated by ferry companies, municipalities, private companies and federal and provincial governments. Vessel types vary from small cable ferries to large cruise-type vessels and fast ferries. Operations range from seasonal to year-round service.

For details on the major ferry services, see Addendum Table A8-11. In addition, most major ferry services have their own Web sites, routes and rates.

Traffic figures for 2004 for all members of the CFOA are not yet available. However, the 2003 traffic figures give a good indication of the relative size of CFOA operations. An estimated 38.8 million passengers and 16.3 million vehicles used Canadian ferry services. The British Columbia Ferry Services Inc. is by far Canada's largest operator, carrying 21.4 million passengers and 8.3 million vehicles in 2003. British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation also operate inland ferry services; they carried another 7.2 million passengers and 3.3 million vehicles in 2003. In Quebec, La Société des Traversiers du Québec carried 5.2 million passengers and 2.6 million vehicles.

3 Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

In 2004, Marine Atlantic Inc., a federal Crown corporation, carried 419,548 passengers and 223,044 vehicles between Newfoundland and Labrador and Nova Scotia. Private ferry operators subsidized by the federal government carried fewer passengers and vehicles in 2003, approximately 930,000 passengers and 317,000 vehicles. The remaining CFOA members, including provincial operators in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately three million passengers and 1.3 million vehicle crossings.

In Atlantic Canada, federally supported ferry services are now limited to those provided by Marine Atlantic Inc. and two private-sector operators, Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée. The federal government also provides an annual grant to British Columbia that is directed to BC Ferries.

CRUISE SHIP INDUSTRY

Ownership of large cruise vessels calling at Canada's ports rests with foreign-based companies. Flying foreign flags, these vessels offer two basic types of extended cruises: the luxury cruise and the "pocket" cruise, distinguished by vessel capacity of typically less than 150 passengers.

After the Caribbean and the Mediterranean, Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world. For these voyages, Vancouver and, increasingly, Seattle serve as "home ports," where passengers embark and/or disembark. In 2004, Vancouver experienced a 2.5 per cent decline in cruise traffic from 2003 to 929,976 passengers. This decline was attributable mainly to the Port of Seattle's ability to attract cruise ships by opening new facilities, and the impact of world events on travel and tourism.

In eastern Canada, luxury cruise vessels regularly depart New York and, travelling up the eastern seaboard, call in at Halifax, Charlottetown and other east coast ports before entering the St. Lawrence River and heading to Quebec City and Montreal. Shorter cruises also sail out of New York or Boston for Halifax, Saint John and other Atlantic ports. Many ports, including Saint John, have been investing in new facilities to serve cruise passengers.

Other Canadian ports also benefit from calls by cruise lines, including Victoria, St. John's, Newfoundland and Sydney, Nova Scotia.

Table 8-15 shows international cruise ship traffic at major Canadian ports in 2003 and 2004. Addendum Table A8-12 gives a longer time series.

TABLE 8-15: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2003 AND 2004

Year	(Passengers)				
	Vancouver	Montreal	Quebec City	Halifax	Saint John
2003	953,376	33,600	59,000	170,425	83,946
2004 (prel.)	929,976	40,000	62,000	212,000	138,622

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

In 2003, marine freight traffic totalled 375 million tonnes⁴, up 8.6 per cent from 2002. Domestic flows⁵ accounted for more than one fifth of this (68.3 million tonnes), up 9 per cent from the year before (62.6 million tonnes). Canadian-flag vessels carried 95.9 per cent (65.5 million tonnes) of domestic flows. In 2003, Canada-U.S. traffic totalled 123.5 million tonnes, up 8.0 per cent from 2002. Of this, Canadian-flag vessels carried 51.8 million tonnes, or about 42 per cent of the total. "Other" international (deep-sea or overseas) traffic⁶ increased by 8.8 per cent in 2003 to 183 million tonnes. Canadian-flag vessels carried only 0.1 per cent of this traffic.

Table 8-16 shows Canada's 2002 and 2003 marine traffic statistics by sector. Addendum Table A8-13 covers the same information from 1986 to 2003.

TABLE 8-16: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2002 AND 2003

	(Millions of tonnes)			Total Flows	Total Handled
	Domestic	Transborder	Overseas		
2002	62.6	114.3	168.4	345.4	408.1
2003	68.3	123.5	183.2	374.9	443.0

Source: Statistics Canada, *Shipping in Canada*, Cat. 54-205

4 Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double counted).

5 Maritime traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, the volumes get counted twice.

6 "Other" international traffic includes shipments to and from foreign countries other than the United States.

Table 8-17 shows the share of Canadian waterborne trade carried by Canadian-flag vessels in 2003.

TABLE 8-17: CANADIAN-FLAG SHARE OF CANADIAN WATERBORNE TRADE, 2003

(Millions of tonnes)

<i>Canadian Waterborne Trade</i>	<i>Canadian Flag</i>	<i>Per cent</i>	<i>U.S. Flag</i>	<i>Per cent</i>	<i>Foreign Flag</i>	<i>Per cent</i>	<i>Total Traffic</i>
Domestic	65.5	95.9	0.0	0.1	2.8	4.1	68.3
Canada/U.S.	51.8	42.0	13.6	11.0	58.0	47.0	123.5
Deep-Sea	0.2	0.1	0.6	0.3	182.4	99.6	183.2
Total	117.6	31.4	14.2	3.8	243.2	64.9	374.9

Source: Statistics Canada, and Transport Canada

DOMESTIC MARINE FREIGHT TRAFFIC

COASTING TRADE ACTIVITY FOR 2004

Under Canada's *Coasting Trade Act*, only Canadian-registered, duty-paid ships may transport passengers and cargoes, and conduct commercial marine-related activities in Canadian waters. In addition, only Canadian-registered, duty-paid ships may be involved in the exploration and exploitation of non-living natural resources on Canada's continental shelf. If, however, no Canadian ship is available or capable of providing a particular service, foreign-registered ships can then apply to the Canada Border Services Agency (CBSA) for licences to enter Canada's coasting trade. The CBSA role was formerly handled by Canada Customs and Revenue Agency (CCRA).

In 2004, CBSA received 128 applications for a coasting trade licence, approximately 20 per cent more than in 2003. Of these, 67 were for the carriage of goods, 48 were for a commercial activity and 13 were for the transportation of passengers. U.S. vessels were the most predominant foreign flag involved in Canada's coasting trade, with 46 requests. Bahamian vessels were next most frequent, with 28 requests (after having been first in 2003 for the first time since the *Coasting Trade Act* came into force in December 1992). Panama and Norway were third and fourth, respectively.

The highest percentage of activity continued to be for vessels associated with the oil and gas exploration and production industry. In 2004, there were 62 tanker requests, 14 for drill ships, rigs and support vessels, and 10 for seismic vessels. Much of the tanker traffic relates to the requirement for large-capacity shuttle tankers.

Table 8-18 shows the actual tonnage and percentage of total domestic cargo tonnage carried by foreign-registered vessels in 2001, 2002 and 2003. Table A8-14 in the Addendum gives this same information over a longer time period.

TABLE 8-18: SHARE OF TONNAGE CARRIED BY FOREIGN-FLAG SHIPS IN THE CANADIAN COASTING TRADE, 2001 – 2003

<i>Year</i>	<i>Canadian</i>	<i>Per cent</i>	<i>Foreign</i>	<i>Per cent</i>	<i>Total</i>
2001	52,803,710	98.0	1,099,099	2.0	53,902,809
2002 ¹	59,823,994	95.5	2,802,296	4.5	62,626,289
2003 ¹	65,468,886	95.9	2,827,887	4.1	68,296,773

¹ Significant increase of "Crude Petroleum Oils" shipments from Grand Bank (Hibernia) & Come-By-Chance by foreign-flag ships.

Source: Transport Canada, from data supplied by Statistics Canada

As it is both loaded and unloaded at Canadian ports, domestic cargo is handled twice within the Canadian port system. In 2003, domestic cargo handled increased to 136.4 million tonnes, up 8.7 per cent from the previous year. A significant growth in shipments of crude petroleum, pulpwood and chips, wheat, and fuel oils offset decreased shipments of iron ore, logs and other wood, stone, sand and gravel.

Table 8-19 shows flows of domestic marine traffic by region in 2003.

TABLE 8-19: MARINE DOMESTIC FLOWS BY CANADIAN REGION, 2003

(Thousands of tonnes)

<i>Region of Origin (Loadings)</i>	<i>Region of Destination (Unloadings)</i>				<i>All Regions</i>
	<i>Atlantic</i>	<i>St. Lawrence</i>	<i>Great Lakes</i>	<i>Pacific</i>	
Atlantic	22,908	3,458	552	7	26,925
St. Lawrence	928	5,369	5,559	3	11,859
Great Lakes	242	5,140	8,196	0	13,579
Pacific	3	0	0	15,931	15,934
All Regions	24,082	13,967	14,307	15,941	68,297

Source: Statistics Canada, *Shipping in Canada*, Cat. 54-205

Most domestic traffic passes through the Great Lakes–St. Lawrence Seaway system. In 2003, the ports serving the Seaway handled 39.2 per cent of the total domestic tonnage (loadings and unloadings), or 53.5 million tonnes. Pacific region ports handled 23.4 per cent of the total (31.9 million tonnes). Pacific ports handled 0.3 million tonnes more domestic cargo in 2003 than in 2002; 99.97 per cent of this originated and terminated within that region. Atlantic region ports handled 51.0 million tonnes, up 24 per cent.

The primary commodities handled in the domestic trade across Canada in 2003 include:

- crude petroleum (40.1 million tonnes, up 30.4 per cent from 2002)
- pulpwood and chips (15.8 million tonnes, up 6.8 per cent)
- stone, limestone, sand and gravel (12.9 million tonnes, down 1.1 per cent)
- iron ore and concentrates (10.5 million tonnes, down 7.9 per cent)
- logs and other wood (7.7 million tonnes, down 7.2 per cent)
- fuel oil (8.4 million tonnes, up 15.1 per cent)
- wheat (8.4 million tonnes, up 21.7 per cent)

Together, these commodities represent 76 per cent of all domestic tonnage handled at Canadian ports in 2003.

INTERNATIONAL MARINE FREIGHT TRAFFIC

In 2003, Canadian ports handled 306.6 million tonnes of international cargo, up 8.4 per cent from the year before. Of this, 62.4 per cent was export-oriented (including in-transit and re-export traffic). Japan, China, South Korea, the United Kingdom and other Western European nations accounted for about 60 per cent of Canada's total international (excluding U.S.) marine traffic (exports and imports).

CONFERENCE/NON-CONFERENCE MARKET SHARES

In recent years, non-conference traffic has seen consistent growth both in absolute terms and as a percentage of total liner traffic. In 2003, it increased to 22.2 million tonnes. On the other hand, conference traffic fell to 9.8 million tonnes. This means that non-conference operators moved almost 70 per cent of total liner traffic. Non-conference share of liner traffic becomes even more dominant when non-conference U.S. origin/destination transshipped traffic is considered.⁷

Table 8-20 compares the conference and non-conference shares of Canadian liner trade between 2002 and 2003. Addendum Table A8-15 shows the same data from 1995.

TABLE 8-20: CONFERENCE/NON-CONFERENCE SHARES OF CANADIAN LINER TRADE, 2002 – 2003

(Millions of tonnes)		
	2002	2003
Conference		
Exports	3.5	3.4
Imports	7.3	6.4
Total	10.8	9.8
Non-conference		
Exports	12.7	14.9
Imports	5.4	7.3
Total	18.1	22.2

Source: Transport Canada, International Database; Statistics Canada

In terms of type of cargo, conference operators have been concentrating almost exclusively on containerized traffic in recent years. The year 2003 was no exception, as 97 per cent (9.5 million of 9.8 million tonnes) of cargo was carried in containers. Non-conference operators are also more and more moving cargo in containers (18.4 million tonnes in 2003), although this includes general cargo and neobulk traffic as well.

Breaking down liner traffic by foreign region of origin/destination shows the relative shares of conference and non-conference operators on different routes. Table 8-21 compares conference and non-conference liner traffic by region for 2003.

TABLE 8-21: LINER TRAFFIC BY REGION, 2003

(Millions of tonnes)					
Region	Liner Imports		Liner Exports		Total
	Conference	Non-conference	Conference	Non-conference	
Europe	4.1	2.4	3.3	2.3	12.1
Asia	2.3	3.9	-	10.5	16.7
Central America	-	0.2	0.0	0.7	0.9
South America	-	0.2	0.1	0.4	0.7
Other America	-	0.2	-	0.3	0.5
Middle East	0.0	0.2	0.0	0.2	0.5
Oceania	0.0	0.1	0.0	0.2	0.4
Africa	-	0.2	-	0.1	0.2
Total	6.4	7.3	3.4	14.9	32.0

Note: - means Nil.

Other America = North America plus Greenland and Saint Pierre and Miquelon.

Source: Transport Canada, International Database; Statistics Canada

⁷ It is important to note that the data in the tables are not adjusted for U.S. transshipments moving through Canadian ports. Much of this traffic moves on conference vessels but at non-conference rates. The route most likely affected by these transshipments is the one between Europe and Canada. Montreal estimates that approximately 50 per cent of its liner traffic originates in or is destined for the United States. Halifax and Vancouver are also handling growing amounts of U.S. Midwest traffic. This would, of course, overstate the share of conference traffic.

CANADA-U.S. FREIGHT TRAFFIC

In 2003, Canada's marine traffic to and from the United States totalled 123.5 million tonnes, up by 8.0 per cent. Imports (unloading from U.S. origins)⁸ grew by 1.9 per cent, while exports (loadings to U.S. destinations) grew by 11.5 per cent.

Table 8-22 shows Canada's maritime trade with the United States in 2002 and 2003. Addendum Table A8-16 shows the same data from 1986.

TABLE 8-22: CANADA'S MARITIME TRADE WITH THE UNITED STATES, 2002 – 2003

(Millions of tonnes)

	<i>Loaded</i>	<i>Unloaded</i>	<i>Total</i>
2002	72.9	41.4	114.3
2003	81.2	42.2	123.5

Source: Statistics Canada, Cat. 54-205; Transport Canada

Loadings at Canadian ports destined for the United States totalled 81.2 million tonnes in 2003. Seven commodities accounted for 83 per cent of this volume: crude petroleum (21.1 million tonnes); stone, limestone, sand and gravel (11.9 million tonnes); gasoline (8.4 million tonnes); iron ore (8.2 million tonnes); fuel oil (7.9 million tonnes); gypsum (6.1 million tonnes); and salt (4.0 million tonnes).

From 2002 to 2003, significant changes took place in the volumes of major commodities exported to the United States. Volumes of several commodities increased: crude petroleum exports jumped by 39.2 per cent, stone, limestone, sand and gravel by 12.8 per cent, fuel oil by 20.2 per cent, salt by 15.0 per cent and iron ore by 24.6 per cent. Exports of gasoline and gypsum, on the other hand, decreased by 11.1 and 7.5 per cent, respectively.

The Canadian Atlantic to the U.S. Atlantic route and the Canadian Great Lakes to the U.S. Great Lakes route were two main flow corridors used in 2003. Of total loadings to the United States, 57 per cent (46.0 million tonnes) was shipped by the Atlantic route, while 17 per cent (14.2 million tonnes) was shipped by the Great Lakes route. Combined, these routes accounted for 74 per cent of Canada's commodities traffic volumes to the United States via marine transport services.

Imports of U.S. marine shipments to Canada totalled 42.2 million tonnes in 2003, up 1.9 per cent. Seven commodities accounted for 86 per cent of this volume: coal (18.9 million tonnes); iron ore (5.5 million tonnes); fuel oil (2.8 million tonnes); stone, limestone, sand and gravel (2.7 million tonnes); other petroleum products (2.7 million tonnes); basic chemicals (2.6 million tonnes); and salt (0.9 million tonnes).

As with exports, volumes of commodities imported changed significantly in 2003. Imports of fuel oil and gasoline rose 28.9 and 13.2 per cent, respectively, while shipments of stone, limestone, sand and gravel and basic chemicals dropped by 11.8 and 21.1 per cent, respectively.

More than 73 per cent, by volume, of total marine imports from the United States originated at ports on the Great Lakes. Ports along the U.S. Atlantic and the Gulf of Mexico accounted for 19.2 per cent, while U.S. Pacific ports made up the remaining seven per cent.

Table 8-23 shows traffic flows from Canadian to U.S. ports in 2003, while Table 8-24 shows traffic flows from U.S. to Canadian ports.

TABLE 8-23: CANADA'S MARINE TRAFFIC TO THE UNITED STATES, 2003

(Millions of tonnes)

<i>Canadian Region of Origin</i>	<i>U.S. Region of Destination</i>			<i>Total</i>
	<i>U.S. Atlantic</i>	<i>U.S. Great Lakes</i>	<i>U.S. Pacific</i>	
Atlantic	46.0	0.0	0.4	46.4
St. Lawrence	4.8	5.3	0.0	10.2
Great Lakes	0.1	14.2	0.0	14.3
Pacific	0.4	0.0	9.9	10.3
Total	51.3	19.6	10.3	81.2

Note: Table may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

TABLE 8-24: CANADA'S MARINE TRAFFIC FROM THE UNITED STATES, 2003

(Millions of tonnes)

<i>Canadian Region of Destination</i>	<i>U.S. Region of Origin</i>			<i>Total</i>
	<i>U.S. Atlantic</i>	<i>U.S. Great Lakes</i>	<i>U.S. Pacific</i>	
Atlantic	4.5	0.0	0.1	4.6
St. Lawrence	3.5	2.2	0.2	5.9
Great Lakes	0.1	28.9	0.0	29.0
Pacific	0.0	0.0	2.7	2.7
Total	8.1	31.2	3.0	42.2

Note: Table may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

⁸ Including in-transit and transshipment cargo.

OVERSEAS FREIGHT TRAFFIC

Canada's 2003 marine trade with overseas countries (excluding the United States) totalled 183 million tonnes, up nine per cent from 2002. Exports exceeded imports by about 37 million tonnes. Approximately 59 per cent of overseas exports were loaded at west coast ports, while 88 per cent of overseas imports were unloaded at east coast ports.

Table 8-25 shows Canada's marine overseas trade in 2002 and 2003. Addendum Table A8-17 shows overseas trade since 1986.

TABLE 8-25: CANADA'S MARITIME OVERSEAS TRADE, 2002 – 2003

	(Millions of tonnes)		
	<i>Loaded</i>	<i>Unloaded</i>	<i>Total</i>
2002	101.4	67.0	168.4
2003	110.2	73.0	183.2

Note: Table may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

In 2003, Canadian ports loaded 110.2 million tonnes of cargo to be shipped to non-U.S. countries, up nine per cent from 2002. The major commodities were: coal (25.5 million tonnes); iron ore (21.7 million tonnes); containerized freight (15.0 million tonnes); wheat (10.7 million tonnes); sulphur (5.6 million tonnes); potash (5.6 million tonnes); and wood pulp (5.0 million tonnes). Slightly more than 13 per cent of this traffic was containerized.

Increasing in 2003 were shipments of coal (6.2 per cent), iron ore (16.6 per cent), wheat (three per cent), sulphur and potash. Shipments of wood pulp, however, decreased by 1.4 per cent.

Of Canada's total marine exports to overseas destinations in 2003, three fifths were loaded at ports in Western Canada. Ports along the St. Lawrence Seaway handled most of the loading for ports in Eastern Canada. Western ports shipped the majority of the tonnage travelling the Asia and Oceania trade routes (69 per cent), while the eastern ports handled 62 per cent of the tonnage shipped to Europe.

In terms of imports, Canadian ports unloaded 73.0 million tonnes of marine shipments from overseas origins in 2003, up 8.9 per cent. Imports of crude petroleum⁹ were 33 million tonnes, accounting for 46 per cent of all marine traffic unloaded from offshore origins. The other major commodities unloaded were: containerized freight (12.9 million tonnes); basic chemicals (4.3 million tonnes); other metallic ores and concentrates (3.7 million tonnes); gasoline (3.3 million tonnes); coal (2.6 million tonnes); and iron and steel (2.1 million tonnes). About 18 per cent of this inbound traffic was containerized.

In addition, more than 87 per cent of overseas shipments were unloaded at ports in Eastern Canada. Overseas cargo originated mainly from Europe, the Middle East and Africa.

Table 8-26 shows Canada's marine traffic to overseas destinations, while Table 8-27 shows Canada's marine traffic from overseas markets in 2003.

TABLE 8-26: CANADA'S MARINE TRAFFIC TO OVERSEAS, 2003

<i>Foreign Region of Destination</i>	(Millions of tonnes)		
	<i>Canadian Region of Origin</i>		<i>Total</i>
	<i>Eastern Ports</i>	<i>Western Ports</i>	
Asia and Oceania	7.6	44.8	52.4
Europe	28.4	8.2	36.6
South and Central America	4.9	7.9	12.8
Middle East and Africa	4.7	3.7	8.4
Unknown	0.0	0.0	0.0
Total	45.6	64.6	110.2

Note: Table may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

TABLE 8-27: CANADA'S MARINE TRAFFIC FROM OVERSEAS, 2003

<i>Foreign Region of Origin</i>	(Millions of tonnes)		
	<i>Canadian Region of Destination</i>		<i>Total</i>
	<i>Eastern Ports</i>	<i>Western Ports</i>	
Europe	27.5	0.2	27.7
Middle East and Africa	21.0	0.0	21.0
South and Central America	12.0	1.1	13.0
Asia and Oceania	3.5	7.6	11.1
Unknown	0.1	0.0	0.1
Total	64.1	8.9	73.0

Note: Table may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

9 Including transshipments of North Sea Crude petroleum.

MARINE TRADE

International trade data indicate that Canadian international marine trade in 2003 totalled \$107.4 billion (excluding shipments via U.S. ports). This is up 4.1 per cent from 2002. Marine imports totalled \$59.8 billion, while marine exports totalled \$47.6 billion. The value of imports increased by 4.8 per cent, notably with increased cargoes inbound from China, Japan, South Korea, Germany, the United Kingdom and Norway. The value of exports also increased, by 3.3 per cent, mainly to United States, China and United Kingdom.

Table 8-28 shows the value of the marine share of Canada's international trade in 2003.

TABLE 8-28: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2003

	(Billions of Canadian dollars)		
	<i>Marine</i>	<i>All Modes</i>	<i>Marine (per cent)</i>
Transborder			
Exports ¹	12.06	326.70	3.7
Imports	3.15	203.70	1.6
Total U.S.	15.21	530.40	2.9
Other countries			
Exports ¹	35.56	54.17	65.6
Imports	56.63	132.14	42.8
Total	92.19	186.30	49.4

Note: Table may not add up due to rounding.

¹ Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

Marine traffic with the United States in 2003 totalled \$15.2 billion, based mainly on exports of \$12.1 billion. Nonetheless, this represented only 2.9 per cent of total Canada-U.S. trade. The bulk of the traffic was handled by surface transport modes, such as trucking and rail.

Canada's marine trade with overseas countries (excluding the United States) totalled \$92.2 billion in 2003. Exports accounted for \$35.6 billion of this total, while imports accounted for \$56.6 billion. In terms of value, marine transport accounted for 49 per cent of all overseas trade and was the dominant mode for shipping overseas freight.

Asia, Western Europe and the United States are the major areas of exports/imports. The principal commodities exported to foreign countries in 2003 (including the United States) were: forest products (\$8.7 billion); gasoline/fuel oils (\$6.6 billion); and grains (\$4.7 billion). Imports consisted of: crude petroleum (\$9.4 billion); textiles, leathers and end products (\$8.9 billion); automobile vehicles (\$7.8 billion); machinery (\$5.8 billion); and other food products (\$3.2 billion). For more information on the United States and overseas countries and principal commodities exported/imported by value, see Addendum Table A8-18.

*Passenger traffic in 2004 was very close to the 2000 peak level.
Air Canada successfully emerged from bankruptcy protection in 2004.*

MAJOR EVENTS IN 2004

AIR CANADA

In 2004, Air Canada continued the restructuring efforts it began after filing for court protection under the *Companies' Creditors Arrangement Act* (CCAA) on April 1, 2003. Over the course of its restructuring, the airline achieved a number of objectives that were critical to its emergence from the CCAA. It significantly reduced its annual operating costs, erased its debt burden, and raised more \$1.8 billion in new equity to ensure sufficient liquidity upon exit.

On August 17, 2004, creditors approved Air Canada's Plan of Arrangement (i.e., its restructuring plan) by a near unanimous vote. The Plan received final approval by the Ontario Superior Court of Justice on August 23, 2004. After 18 months of significant restructuring, Air Canada successfully emerged from bankruptcy protection on September 30, 2004, with a revitalized business plan and balance sheet.

AIR LIBERALIZATION

The Government requested the assistance of the Standing Committee on Transport (SCOT) to conduct a review of whether Canada should further liberalize its approach to the economic regulation of the air industry. On November 4, 2004, a guidance document designed to help the Committee identify the issues that need to be addressed and to provide specific questions for consideration was submitted to the SCOT. The objective is for the Committee to report on the views of stakeholders and the interested public, and identify the priorities and policy principles that should guide Canada's air liberalization efforts over the next ten years. The review is expected to begin in early 2005.

AIR TRAVEL COMPLAINTS COMMISSIONER

Ms. Liette Lacroix Kenniff was the Air Travel Complaints Commissioner until September 2004, having been re-appointed by the Minister of Transport in September 2003 for an additional one-year term. The Commissioner released two reports in 2004 for the calendar year 2003. The first report covered the first six months of 2003 and cited a decrease in the number of complaints received by the Commissioner's office over the previous six-month period, due partly to lower-than-average air traffic levels. In her second report, covering the final six months of 2003, the Commissioner noted that fewer complaints were made against Air Canada during its bankruptcy protection, thus further reducing the total number of complaints filed. Each of the Commissioner's reports noted that the number of complaints continued to decline.

AIRPORT RENT POLICY REVIEW

A review of the rent policy for 21 Airport Authorities in the National Airports System (NAS) was launched in 2001, in response to the demands of airports and aviation communities and to the issues raised by the Auditor General in October 2000. The review is designed to assess whether the federal government's airport rent policy balances the interests of all stakeholders, including the air industry and Canadian taxpayers. It has been conducted at the same time as, but independently of, the development of proposed airport legislation. Efforts were undertaken to produce new airport legislation throughout 2004. New legislation is expected to be tabled in the spring of 2005.

During 2002 and 2003, Transport Canada, with the assistance of independent financial experts, embarked on a number of key studies examining the value of leased NAS airports, the impact on the air sector and the travelling public, and the fairness and equity of the current rent model. These studies were completed in 2004 and will be used as key inputs to a government decision expected in 2005.

REGIONAL AND SMALL AIRPORTS STUDY

In 2004, Transport Canada completed a study to analyze the financial viability of regional and small airports that have been transferred by the Department since the introduction of the National Airports Policy (NAP) in 1994. The NAP provides a framework that defines the Government of Canada's role regarding airports. The study was launched following the decision to continue the divestiture initiative; it will serve to help the Department understand the impact of federal government divestitures on affected communities. More than 90 airports across the country were approached to participate in the study. Of these, approximately 70 per cent responded in full or in part to the survey sent to them in the summer of 2003. The completed study was released on September 23, 2004, and can be found on the Web at www.tc.gc.ca/programs/airports/menu.htm.

AIR TRAVELLERS SECURITY CHARGE

The Air Travellers Security Charge came into effect on April 1, 2002, to fund the cost of the enhanced air travel security system that was introduced in response to the 2001 terrorist attacks in the United States. The charges were initially set at \$12 per enplanement, up to a maximum of \$24 per ticket, for air travel within Canada, \$12 for transborder air travel to the continental United States, and \$24 for other international air travel. Beginning in March 2003, the charge for travel within Canada was reduced to \$7 for one-way travel and to \$14 for round-trip travel. A further reduction took effect on April 1, 2004. Current charges are set at \$6 each way for domestic flights, \$10 for transborder air travel and \$20 for other international travel.

The security charge was applicable in 2004 to flights between the 89 airports in Canada at which the Canadian Air Transport Security Authority delivers the enhanced air travel security system.

COMPUTER RESERVATION SYSTEMS

On May 7, 2004, following extensive consultations by Transport Canada in 2003 and 2004 with members of the travel distribution industry, air carriers and other governments, the amended Computer Reservation Systems Regulations were published in the *Canada Gazette*, Part II. The amendments move to a more deregulated system, while continuing to protect the interests of air travellers. They also recognize significant changes, such as the emergence of the Internet as an information and sales tool, which have occurred since the original regulations were put in place in June 1995.

Airlines, for example, will no longer be required to participate in all computer reservation systems operating in Canada. Rather, they will be able to decide how best to distribute and sell their air services. At the same time, the regulations will continue to ensure that travel agents have access to neutral and non-discriminatory information on behalf of consumers and that no carrier is disadvantaged in computer reservation system displays. Overall, the amended regulations give way to market forces in many areas that were previously regulated and allow for stakeholders to negotiate on more commercial terms, benefiting all industry stakeholders.

Transport Canada will continue to actively monitor changes in the airline and travel distribution industries, as well as the evolution and development of technology in air travel distribution, due largely to the emergence and significance of the Internet.

ELECTRONIC COLLECTION OF AIR TRANSPORTATION STATISTICS

The Electronic Collection of Air Transportation Statistics (ECATS) initiative began in April 2003 with the objectives of collecting operational air transportation statistics electronically from the approximately 170 air carriers serving Canada, improving the timeliness of air transportation statistics to industry and government and reducing the reporting burden and associated costs to stakeholders. Transport Canada is currently collecting air transportation data electronically from the majority of airlines originally identified in the list of 170 airlines and the initiative remains on schedule with a completion date of March 31, 2005. Planning for the second phase of ECATS is well underway with a focus on expanding the electronic collection process to include air cargo, general aviation and other air carrier information.

THIRD-PARTY WAR AND TERRORISM LIABILITIES INDEMNITY

Since international insurers withdrew previous levels of coverage following the events of September 2001, the federal government has been providing short-term indemnification for third-party war and terrorism liabilities for providers of essential aviation services in Canada. This indemnity remained in force in 2004 for renewable periods of 90 days. Despite some recovery in the insurance markets, previous levels of coverage were still not available at reasonable prices. Other countries provide similar support to their carriers.

CAPE TOWN CONVENTION AND PROTOCOL

On March 31, 2004, Canada became the 28th State to sign the Convention on International Interests in Mobile Equipment and the Protocol to the Convention on International Interests in Mobile Equipment on Matters specific to Aircraft Equipment.

Bill C-4, an Act to implement the Convention on International Interests in Mobile Equipment and the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment, was introduced in the House of Commons on October 8, 2004. The Bill and the eventual ratification of Convention and Protocol will facilitate and encourage international asset-based financing, i.e., financing using the value of equipment as security for payment. The new insolvency rules would reduce the risks associated with financing aircraft, thereby providing greater certainty to creditors. The harmonized legal framework is expected to improve sales for aircraft manufacturers and financiers while minimizing their risk of loss.

PRECLEARANCE

United States border preclearance allows travellers and their goods to be inspected by U.S. preclearance officers for the purposes of customs, immigration, public health, food inspection, and plant and animal health before flights depart from Canada for U.S. destinations. This enables travellers to be treated as domestic passengers upon arrival in the U.S., where they can enjoy shorter and easier connections to other U.S. cities, as well as direct access to U.S. airports that have no customs and immigration inspection facilities.

In December 2004, the Government of Canada announced the United States' agreement to extend the Canada-U.S. preclearance program to Halifax International Airport. The United States will extend preclearance to Halifax as soon as the airport's new preclearance facility is completed. Halifax becomes the eighth Canadian airport to offer preclearance, in addition to Vancouver, Calgary, Edmonton, Winnipeg, Toronto, Ottawa and Montreal.

MULTIPLE DESIGNATION POLICY

In 2004, the Minister awarded new designations pursuant to the 2002 multiple designation policy. The policy allows all Canadian carriers to apply to operate scheduled international air services to any international market. The designations are as follows: Air Transat (Toronto – Manzanillo (Mexico) and Winnipeg – Puerto Vallarta), Zoom Airlines (Ottawa – Puerto Vallarta), CanJet Airlines (Dominican Republic) and an extension of Air Canada's temporary designation to Grenada.

INTERNATIONAL CARGO TRANSSHIPMENT POLICY

In the Fall 2004, the Minister announced his decision to approve an application from the Winnipeg Airport Authority for the participation of the Winnipeg International Airport in the federal government's international air cargo transshipment program. The transshipment program was developed in the 1980's to assist smaller or under-utilized airports by allowing air carriers, in the absence of operating rights under bilateral air transport agreements, to carry cargo to and from Canada enroute to third countries. Winnipeg International Airport becomes the fifth Canadian airport to participate in the program alongside Mirabel, Hamilton, Windsor, and Gander.

BILATERAL AGREEMENTS

Canada had more than 70 bilateral air transport agreements or arrangements for international air services in place at the end of 2004. The federal government participated in seven rounds of negotiations with five countries and held consultation meetings with fourteen other countries during the year. An amended air transport agreement was concluded with the Russian Federation expanding the rights to operate to and to overfly one another's territory. Similarly, an agreement was reached

expanding the airline operating opportunities for scheduled air services between Canada and Japan. Pending the conclusion of an agreement with the Republic of Colombia, a temporary arrangement was reached permitting limited air services. Temporary air services arrangements with Israel and Singapore were extended allowing existing air services to continue. An arrangement was reached with Brazil regarding the weekly frequency of flights, and new tariff regimes were put in place with Barbados, St. Kitts, Saint Lucia, and Trinidad and Tobago.

INFRASTRUCTURE

Canada's air transportation infrastructure consists of aerodromes and a civil Air Navigation System (ANS). Since the introduction of the National Airports Policy (NAP) in 1994, the federal government has been reducing its role in the management, operation and ownership of airports. Transport Canada's role has shifted from owner and operator to landlord and regulator of Canadian airports. Transport Canada continues to be responsible for the regulation and safety of the ANS, but facility ownership was transferred to NAV CANADA. These changes were designed to promote safety, efficiency, affordability, service integration, innovation and commercialization. The transfer process has been largely completed and the current state of transfer is posted monthly on the Internet at www.tc.gc.ca/programs/airports/status/menu.htm.

AIRPORTS

Canada has approximately 1,700 aerodromes; facilities registered with Transport Canada as aircraft take-off and landing sites. The aerodromes are divided into three categories: water bases for float planes, heliports for helicopters and land airports for fixed-wing aircraft.

Most of Canada's commercial air activity takes place at certified land airports; sites that are required to meet Transport Canada's airport certification standards because of their level of activity or location.

AIRPORT AUTHORITY REVENUES AND EXPENSES

The NAP designated 26 National Airport System (NAS) airports as essential to the national transportation infrastructure. Of these, 22 were transferred by way of long-term leases to airport authorities. The airport authorities are not-for-profit, non-share capital corporations, with locally nominated and publicly accountable Boards of Directors, which are responsible for the management,

operation and development of the individual NAS airports. The three territorial NAS airports were transferred outright to the three territorial governments and Kelowna Airport is operated by the City of Kelowna.

Airport authority financial statements for the year ending in 2003 are shown in Table A9-1 in the Addendum.

AIRPORTS CAPITAL ASSISTANCE PROGRAM

Since April 1995, Transport Canada has provided the Airport Capital Assistance Program (ACAP) to help eligible non-NAS airports finance capital projects related to safety, asset protection and operating cost reduction. To be eligible, the airports must receive a minimum of 1,000 passengers annually, meet airport certification requirements, and not be owned by the federal government. In 2004, the program announced 42 projects at 35 airports for funding at an estimated total of \$34.3 million. Table A9-2 in the Addendum shows the allocation of funds by province since the inception of the program. ACAP projects approved in 2004 are listed in Table A9-3 in the Addendum.

AIRPORT IMPROVEMENT FEES

A number of airport authorities collect Airport Improvement Fees (AIFs) to pay for and finance their capital expenditures. AIFs now represent approximately 22 per cent of total NAS airport revenues on average and this percentage continues to grow. Currently, most AIFs vary from \$10 to \$15 per passenger. The majority of AIFs are collected through the airlines ticket systems, but some are collected directly by the airport authority. A list of the current AIFs for NAS airports is displayed in Table A9-4 of the Addendum.

FINANCIAL PERFORMANCE OF NAS AIRPORTS

The outbreak of Severe Acute Respiratory Syndrome (SARS) contributed to passenger volume reductions in 2003 of approximately four per cent at Toronto and Vancouver airports. This drop at Canada's two busiest airports was more than enough to offset modest traffic increases at other airports, resulting in no change in overall passenger traffic. Despite this fact, revenues continued to rise in 2003, with operating revenues and airport improvement fees both increasing by 8.5 per cent. Some of the smaller NAS airports saw their revenues decline or remain relatively unchanged.

In 2003, airport costs increases outstripped revenue gains. The authorities' combined operating costs rose by 14.5 per cent in 2003, due in part to the write-off of more than \$50M in Air Canada receivables. Costs also increased in the areas of fuel, security and the operation of new infrastructure. The largest cost increase was in the area of interest charges related to capital infrastructure, where costs rose by 32 per cent. The large increases in non-operational costs (i.e., interest, amortization) led to a substantial decline (93 per cent) in the authorities' combined net income, with authorities such as Toronto, Montreal, Gander, Saint John and Fredericton ending the year in a deficit position.

Total rent recorded by the airport authorities in 2003 was \$241.5 million, with \$17.6 million in rent being deferred by eight authorities in the last six months of 2003 as a result of the short-term financial relief program announced by the Government in July 2003. Under the program, airport authorities that pay rent receive a reduction of a minimum of 10 per cent of their rents for a 24-month period commencing July 1, 2003, with larger deductions depending on the decline in passenger levels experienced between April 2002 and April 2003. The rent reductions are to be recovered, interest free, over a 10-year period beginning in 2006. As part of this program, the smaller NAS airports were able to defer their chattel payments by two years, beginning January 1, 2004.

Airport authorities made \$1.6 billion in capital expenditures in 2003 as several airports including Ottawa, Toronto, Montreal, Calgary, Edmonton and London continued major capital expansions. Toronto accounted for \$1 billion of the total expenditures and continues work on its Airport Development Program. Its new Terminal 1 was opened in April 2004. In 2003, Montreal completed work on Phase I of its Terminal Expansion Project at Pierre Elliott Trudeau International Airport. London's new terminal building opened in November 2003. Regina is constructing Phase I of its Air Terminal Building Re-development Project, which is expected to cost \$15 million. Prince George has begun a three-phase, \$20 million airport improvement plan. In terms of planned expenditures, several authorities have major capital projects under development. Vancouver has announced plans to spend \$1.4 billion over the next 10 years to upgrade its facilities and Winnipeg has unveiled plans for an airport redevelopment program that will cost \$350 million for the first phase commencing in 2004/05. Halifax and Victoria have also announced plans for further airport infrastructure development. A substantial amount of the capital infrastructure was financed through debt, with the total long-term debt of NAS airports amounting to \$7.6 billion at December 2003.

AIR NAVIGATION SYSTEM

NAV CANADA is a not-for-profit, private corporation that owns and operates Canada's civil air navigation system — providing air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. NAV CANADA has the right to set and collect customer service charges from aircraft owners and operators. Most customer service charges are applicable to commercial air carriers. For more information on NAV CANADA, visit the corporation's Web site at www.navcanada.ca.

INDUSTRY STRUCTURE

AIRLINES

AIR CANADA FAMILY

The Air Canada family of companies remained Canada's largest airline in 2004. It earned revenues of \$7.6 billion between October 1, 2003, and September 30, 2004. Air Canada provided service to 21 points in Canada, 30 in the United States and 54 international destinations. It operates a fleet of 199 aircraft and employs an average of 29,500 full-time employees. Air Canada is a founding member of Star Alliance, a consortium of 15 airlines that serve 772 destinations in 133 countries. Jazz operates service on less busy domestic and transborder routes, covering 69 destinations, particularly to small communities. Jazz employs an average of 3,500 employees and operates a fleet of 90 aircraft. Air Canada placed new orders for 90 regional jets from Bombardier and Embraer. The new aircraft are to be delivered over a four-year period beginning in the fall of 2004. Air Canada Vacations offers tour packages to popular destinations. Jetz, Air Canada's jet charter service, offers premium charter service to sports teams and businesses. In addition, three independent local service operators (Air Georgian, Air Labrador and Central Mountain Air) offer regional services on behalf of Air Canada.

LOW-COST CARRIERS

Canadians now receive domestic and transborder air services from a number of low-cost, no-frills carriers. These carriers have been the source of most traffic growth, a trend that is echoed in Canada and around the world. Calgary-based WestJet is now Canada's second-largest airline, having earned just over \$1 billion in revenues between October 1, 2003, and September 30, 2004. It serves 31 cities with 54 aircraft and 4,500 employees. WestJet began scheduled transborder services in the fall of 2004, notably to California and Florida. WestJet also made several announcements regarding its fleet expansion. The company plans to add fifteen new aircraft to its fleet in 2005 and another six new aircraft by the end of 2006. Montreal-based Jetsgo continued expansion of its fleet, having purchased eleven used 11 Fokker 100 aircraft to supplement its existing fleet of 14 MD-83s. Five additional aircraft are to be put in service by mid-2005. With 1,200 employees, Jetsgo serves 18 Canadian cities and 10 U.S. destinations. CanJet, based in Halifax, operates nine aircraft to 14 destinations in Eastern North America. A further three new aircraft are to be added to the fleet in 2005. In addition to their scheduled services, all three low-cost airlines offer charter services.

LEISURE CARRIERS

A number of airlines focus their business on leisure destinations, carrying mostly tourists to warm southern destinations or Europe, depending on the season. Traditionally charter airlines, they offer vacation packages, generally to Europe in the summer and to the south in the winter. However, most leisure airlines now offer scheduled flights in those markets where they have been designated to do so. The major players in this segment of the industry are Air Transat and Skyservice Airlines. Montreal-based Air Transat flies 14 aircraft to 90 destinations. Air Transat also offers scheduled services to France and the United Kingdom. Skyservice Airlines, based in Mississauga, has a fleet of 24 aircraft and has 1,200 employees. Two other leisure airlines are based in Canada. Zoom Airlines provides scheduled services from several cities in Canada to the United Kingdom and France, as well as charter flights to the Caribbean, with two aircraft. Vancouver-based Harmony Airways offers scheduled flights from three Canadian cities to four U.S. destinations, as well as charter services, with three aircraft.

FOREIGN AIRLINES

Twenty-three U.S. airlines fly to 18 Canadian cities, while 37 foreign airlines provide service between Canada (primarily from Montreal, Toronto and Vancouver) and 51 international destinations in 31 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Table A9-5 in the Addendum.

NORTHERN AIRLINES

A number of airlines provide year-round scheduled and charter service across the three territories with combination passenger and cargo aircraft. The major participants are Air North, Calm Air, Canadian North (incorporated as Air Norterra) and First Air. Services by these airlines are complemented by other airlines such as Aklak Air, Kenn Borek Air and North-Wright Airways. They offer flights to the most remote communities in the Arctic. Most airlines in the region also provide Medevac services and other transport under contract to the federal and territorial governments.

LOCAL SERVICE AIRLINES

Smaller local service airlines provide service across Canada, particularly to remote communities, in niche markets (e.g., Bearskin Airlines' service between points in Ontario, and floatplane and helicopter services in British Columbia). They also operate alternative services in some regional markets (e.g., Hawkair in British Columbia and Provincial Airlines in eastern Canada). Addendum Table A9-6 lists most of these airlines and their major areas of operation. Like the airlines serving the Arctic, many of the local service airlines provide emergency transport under contract to the federal and provincial governments.

ALL-CARGO AIRLINES

A number of all-cargo airlines provide jet service on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers. They include AllCanada Express and Cargojet Canada, both based in Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton.

BUSINESS AND COMMERCIAL AVIATION

The actual number of airlines operating in Canada is much larger than the previous section implies. At the end of 2004, the Canadian Transportation Agency reported that more than 2,360 licences were active. Table A9-7 in the Addendum shows the number of licences held as of December 31, 2004. The number of personnel licences issued by Transport Canada confirms the importance of the commercial sector. The number of commercial licences held in 2004 is roughly equal to the number of air transport licences. Addendum Table A9-8 summarizes the number of personnel licences issued, while Table A9-9 gives a provincial breakdown of the licences.

Business aviation continued to grow in 2004 due to fractional ownership, which allows individuals or businesses that would not otherwise be permitted to own aircraft on their own to share aircraft use by purchasing units of flight time. This type of aircraft ownership is regulated in Canada as a commercial air service.

Specialty air services use aircraft but do not involve the movement of passengers or cargo between two points. They include such diverse services as flight training, parachute jumping, glider towing, aerial forest fire management and firefighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and heli-logging, as well as hovercraft services. While some large companies (e.g., Canadian Helicopters) are represented in this sector, many of the companies are very small operators serving local markets.

RECREATIONAL AVIATION

Recreational flying in its various forms represented the bulk of general aviation activity, accounting for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada in 2004. It is also the largest segment of Canadian civil aviation activity. While most recreational aircraft are standard planes, this segment also includes all other types of recreational aircraft such as ultra-lights, gliders and balloons, among others. Table A9-10 in the Addendum gives further detail on the types of aircraft operated.

PRICE, PRODUCTIVITY AND PERFORMANCE

AIR TRANSPORT INDUSTRY

Total passenger revenues in 2003 declined by 12 per cent. Both lower passenger prices (-5.8 per cent) and a drop in passenger demand (-6.6 per cent) contributed to the decline in revenues. These declines were due, in part, to the decrease in international passenger traffic, reflecting the impact of the SARS outbreak and the war in Iraq. However, all three market segments (domestic, transborder and international) experienced revenue declines. Prices declined most in the domestic market due to increased low-cost competition. Between 1998 and 2003, passenger prices increased by 1.3 per cent per year on average, while output decreased on average by 2.2 per cent annually. With respect to air cargo, based on preliminary data, prices increased by 9.5 per cent during 2003, while output declined by 16 per cent.

Productivity of the air transport industry increased by 1.3 per cent in 2003. This improvement was due to increases in both labour and fuel productivity, as the industry continued to move towards more fuel-efficient aircraft. Capital productivity declined noticeably in 2003. It is important to note, however, that such a partial measure of productivity is particularly volatile and difficult to measure in the air transport industry. While total unit costs recorded an overall marginal decline of 0.3 per cent in 2003, significant variations were experienced in the various cost components. Unit fuel costs were up 15.5 per cent as oil prices increased during the year; while unit labour costs decreased by 8.1 per cent, a situation largely explained by the labour concessions Air Canada obtained during its restructuring.

The air transport industry's revenues declined in 2003. One of the key drivers of this decline was the drop of approximately \$1.5 billion in 2003 in Air Canada's revenues as it continued its restructuring.

FREIGHT TRANSPORTATION

Air cargo is carried in the belly-hold of passenger aircraft, in passenger/cargo combination or in all-cargo aircraft. Canada's domestic air cargo market is deregulated; as such, there are no restrictions on routing, capacity or price. Transborder and international air cargo services are covered by bilateral air agreements, other international agreements and national policies. Some all-cargo airlines do provide charter services outside of Canada on behalf of foreign-based airlines but have little presence on their own in international markets. However, a significant amount of cargo is carried in the belly-hold of passenger aircraft.

There are several operators in Canada providing dedicated all-cargo service, with a total of 50 aircraft. In addition, Air Canada provides air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for six per cent of its revenues in the first three quarters of 2004. In the North, Canadian North and First Air also provide air cargo services, along with numerous other smaller operators.

Table A9-11 in the Addendum shows the volume of goods carried by Canadian air carriers from 1993 to 2003. Overall, the number of tonnes carried decreased by 18 per cent in 2003 over 2002 with all three sectors showing significant decreases. Addendum Table A9-12 shows the operating revenues generated by goods carried by Canadian air carriers. Between 2002 and 2003, domestic revenues dropped by 16 per cent, while international and transborder revenues (combined) decreased by 45 per cent.

Table A9-13 in the Addendum compares the value of goods shipped by air versus other modes. While air cargo trade between Canada and the United States rose steadily between 1997 and 2000, the market has decreased each year since then, with a decline of \$15.4 billion, or 33 per cent. This loss was higher in the import sector than the export sector. Air cargo's share of total Canada-U.S. trade was 5.8 per cent in 2004, down from a high of 8.1 per cent in 2000.

As Table A9-13 in the Addendum shows, Canada's air trade with countries other than the United States increased significantly, by 19 per cent, in 2004 over 2003. This result can be explained by the surge in exports and imports, which increased by 26 per cent and 15 per cent, respectively in 2004 over 2003. Trade remained import-oriented, making up about 53 per cent more than the value of exported goods. The air mode's share of the total value of trade with other countries was 22.6 per cent in 2004, compared to a peak of 23.4 per cent in 2004.

Of goods shipped by air, 83 per cent had eastern provinces as their origin or destination. As expected, the United States, followed by countries in Western Europe and in Asia, were the main markets for trade with Canada using air transport. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum. Table A9-15 in the Addendum shows the value of imports and exports shipped by air by country for the top 25 countries. Table A9-16 in the Addendum breaks out the commodity group for goods shipped by air. Not surprisingly, high-value items such as machinery and electrical equipment, aircraft and transport equipment, and other manufactured goods make up the majority of the goods shipped by air.

PASSENGER TRANSPORTATION

TRAFFIC

Passenger traffic in 2004 was nearly equal the previous peak reached in 2000, with 60 million passengers. No significant event affected air traffic in 2004, although Air Canada had reduced capacity while it was under creditor protection. In contrast, all of the low-cost carriers increased their capacity during the year.

As shown in Table 9-1, the domestic, transborder and international sectors each registered significant growth with increases of eight per cent, 10 per cent and 18 per cent, respectively. The high growth can be explained in part by a recovery after the Severe Acute Respiratory Syndrome outbreak, however, traffic in all three sectors increased significantly over 2002 levels. Despite these improvements, airline revenues declined.

For a summary of 2002 traffic at the 26 NAS airports, by sector and region, see Table A9-17 in the Addendum.

TABLE 9-1: AIR PASSENGER TRAFFIC, 2000 – 2004

(Thousands of passengers)

	<i>Domestic</i>	<i>Transborder</i>	<i>International</i>	<i>Total</i>
Air Passengers				
2000	26,001	20,824	13,177	60,002
2001	24,994	18,568	13,196	56,757
2002	23,862	17,575	12,930	54,367
2003	24,434	16,809	12,661	53,903
2004	26,462	18,574	14,952	59,988
Annual Change (Per cent)				
2001/00	(3.9)	(10.8)	0.1	(5.4)
2002/01	(4.5)	(5.3)	(2.0)	(4.2)
2003/02	2.4	(4.4)	(2.1)	(0.9)
2004/03	8.3	10.5	18.1	11.3

Notes: Previously published data for 2001 have been revised due to the recent availability of more accurate information. Because the 2002 data used last in last year's report were estimates based on the reported 2001 data, those numbers have also been revised. Data estimated for 2003 and 2004.

Passenger Traffic is based on enplaned and deplaned passengers, but results for the domestic sector have been divided by two to avoid double counting of passengers.

Source: Statistics Canada

SERVICES

DOMESTIC

Low-fare airlines continued their rapid expansion in 2004 with the most attention paid to the heavily travelled transcontinental routes. WestJet boosted its presence in Toronto, transferring most of the flights that had been serving Hamilton to Pearson International Airport and increasing service frequency in most major markets. Jetsgo was also active in the Toronto market, increasing the frequency of flights in most markets that it had already been serving and introducing first-time service to Moncton and Quebec City. CanJet filled some of the void left by WestJet in Hamilton by introducing a new Hamilton-Ottawa service.

As part of its restructuring plan, Air Canada eliminated several aging aircraft from its fleet and ordered 90 new regional jets. Its subsidiary Zip terminated its operations and was fully integrated with Air Canada. Overall, Air Canada reduced flight frequencies on its network, but continued service to most points. The only exceptions were in British Columbia, where Jazz ceased operations in Fort Nelson in June and in Quesnel and Williams Lake in October. Jazz also discontinued direct service in Quebec on the Quebec-Val d'Or/Rouyn route.

Local service airlines were also active in 2004. Regional 1, a new airline, started to operate scheduled flights from Lethbridge and Red Deer in Alberta to Kelowna and Vancouver in British Columbia. Central Mountain Air picked up air service in Fort Nelson, Quesnel and Williams Lake after Air Canada exited those markets. Hawkair also expanded its services to Fort Nelson and Fort St. John in British Columbia. In Alberta, Peace Air started new services in Red Deer and Medicine Hat. Pascan Aviation, based in St-Hubert, Quebec, expanded to New Brunswick with daily flights to St. Leonard and Charlo.

See Addendum Table A9-18 for a list of new and discontinued domestic services.

TRANSBORDER

In 2004, the transborder markets received more attention from Canadian low-cost airlines. WestJet started scheduled transborder flights in September 2004 and by the end of the year served seven U.S. destinations (Los Angeles, San Francisco, Phoenix, Fort Lauderdale, Tampa, Orlando and New York) with non-stop flights from Calgary, Toronto and Vancouver. Jetsgo continued to offer transborder flights and added three new U.S. destinations. Along with CanJet, the two low-cost carriers added the Toronto-New York (La Guardia) route. As well, Harmony Airways started scheduled flights from Vancouver and Victoria to Hawaii. Despite the significant growth in the transborder sector, low-cost airline participation in the markets is still minimal. Furthermore, no U.S. low-cost airlines entered the transborder market.

The major airlines made some adjustments to their networks. Air Canada's restructuring affected its transborder routes; although service was continued to all points, flights were cut on most routes. Some major U.S. airlines, despite their financial difficulties, added new transborder service. America West was the most active carrier, adding several new routes that included Calgary, Edmonton and Vancouver. Northwest started new services in Kitchener/Waterloo, added a new Toronto-Memphis route and converted seasonal flights to year-round service in Halifax and Quebec City. Continental Airlines offered new flights to St. John's, Newfoundland, while United Airlines added service from Chicago to Edmonton and Ottawa. As part of its restructuring, US Airways partially withdrew from some routes in Montreal and Ottawa. All of the new transborder services offered by major U.S. airlines involve regional jets. For more details on both new and discontinued transborder services, see Table A9-19 in the Addendum.

INTERNATIONAL

Air Canada continued to focus its expansion efforts on Asia and on Latin America. The airline introduced a new non-stop Toronto-Hong Kong year-round service and restored the Toronto-Tokyo and Vancouver-Nagoya routes that were suspended in 2003. In Latin America, Air Canada started new services to Bogotá, Caracas and Lima. The airline continued to expand seasonal weekend-only services to destinations in the Caribbean, a process that started in the fall of 2003. Zoom airlines started to operate scheduled flights to Paris, France, and points in the United Kingdom from several Canadian cities. There was no significant withdrawal of service on international routes except for BMI's new Toronto-Manchester route, which was initiated in the spring of 2004. Current plans indicate that the seasonal route will be taken over by Air Canada in 2005. Air Canada and BMI are both full members of the Star Alliance. Refer to Addendum Table A9-20 for a list of new and discontinued international services.

Domestically, low-cost airlines continued to increase their share of the market at the expense of Air Canada. From December 2003 to December 2004, Air Canada's capacity share dropped by eight percentage points to 52 per cent, while WestJet's share rose to 29 per cent, Jetsgo to nine per cent and CanJet to three per cent. In transcontinental markets, WestJet made significant gains at the expense of Air Canada. Increased service by WestJet, a new Edmonton-Vancouver route by Jetsgo and the reduction in flights as a result of the shutdown of Zip all contributed to an eight percentage point decrease in Air Canada's share of the market in western Canada. In Ontario and Quebec, Jetsgo and CanJet made minimal gains, and in Atlantic Canada, Air Canada lost 10 percentage points, mostly to CanJet, but also to Jetsgo. Carriers such as Canadian North and First Air maintained their strength in the North. For more detailed information on domestic market share by airline and by region in December 2004, see tables A9-21 and A9-22 in the Addendum, and for the summarized results of the top 25 domestic markets, see Table A9-23.

COMPETITION

In response to low-cost carrier competition, Air Canada introduced a simplified fare structure across its network and ticket passes on certain heavily travelled routes. The new fare structure, where all fares are one-way and require no minimum stay, is transparent and allows customers to choose a fare based on price and flexibility. There are five fares for the North American market, ranging from Tango, the most economical, to Executive Class, the most flexible. The amount of reward points collected also depends on the fare chosen by the customer. A similar fare structure is applied to international travel with four different fares. To increase its competitiveness, Air Canada introduced four sets of passes, where a pass is a prepaid package of flight credits. The airline first introduced the Latitude Pass for Rapidair, in response to the competitive service introduced in 2004 by Jetsgo and WestJet on the Toronto-Ottawa-Montreal triangle. This was followed by the introduction of Latitude Passes for the West between the cities of Calgary, Edmonton and Vancouver, City Passes (on selected domestic and transborder routes), and Sun Passes for destinations in the south from Montreal or Toronto.

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Minister of Transport,
Infrastructure and Communities



Ministre des Transports,
de l'Infrastructure et des Collectivités

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A² 2 0 2006

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Excellency:

It is with great pleasure that I submit to your attention the tenth Annual Report on the state of transportation in Canada. This report is produced to conform with the statutory requirements spelled out in Section 52 of the *Canada Transportation Act*.

The year 2005 had its share of challenges and Canada's transportation system was not exempt. Pressure on Canada's transportation system came from rapidly increasing energy prices, the impact of rapidly growing economies like China on Canada's gateways and trade corridors, and the need to continue to enhance transportation's security. In a global supply-chain environment, our country's transportation system has to rapidly adjust to global integration forces requiring integrated efficiencies to sustain competitiveness.

The report presents an analysis of the most recent information available, and using that information, examines the role played by the Canadian transportation system in the production, distribution and consumption of material goods and services. It also examines the evolution of transportation demand and the response of the transportation system to changing needs and market conditions.

This tenth report on the state of the Canadian transportation system, as the previous reports, provides relevant information to policy and program decision-making.

Yours sincerely,

Hon. Lawrence Cannon, P.C., M.P.



Canada

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TRANSPORTATION AND THE ECONOMY

- In 2005, the Canadian economy continued to fare well, with gross domestic product (GDP) growing by 2.9 per cent in real terms.
- Consumer expenditures, business investment and government spending all contributed to this economic growth.
- During the course of the year, energy prices, interest rates and the value of the Canadian dollar all rose.
- The Canadian dollar rose by an average of 7.4 per cent against the U.S. dollar, reflecting a decline of the value of the U.S. dollar and an increase in commodity prices.
- The value of the Canadian dollar fell in the first part of the year, then rose to a 13-year high of US\$0.863 at the end of the year.
- The consumer price index (CPI) increased by 2.2 per cent in 2005. Energy prices and homeownership replacement costs rose by 9.7 and 5.2 per cent, respectively. Transportation prices rose 4.1 per cent as gasoline prices increased by 12.8 per cent.
- In real terms, personal disposable income per capita increased by 1.5 per cent in 2005.
- Canada's population grew by 0.9 per cent, while employment increased by 1.4 per cent.
- All provinces and territories experienced economic growth in 2005, with western Canada faring better than central and eastern Canada.
- Canada's trade with the United States increased by four per cent. China surpassed Japan and Mexico as a source of imports into Canada.
- Trucking accounted for 60 per cent of trade with the United States, rail 17 per cent, pipeline 11 per cent, air six per cent and marine three per cent.
- Almost 76 per cent of Canada-U.S. trade (in value terms) carried by trucks took place at six border crossing points: Windsor/Ambassador Bridge, Fort Erie, Sarnia, and Lansdowne in Ontario, Lacolle in Quebec, and Pacific Highway in British Columbia.
- In 2005, Canada's trade with countries other than the United States totalled \$233 billion. Imports were more significant than exports and, in terms of both value and volume, marine and air transportation were the two dominant modes for this trade.
- Of Canada's top 20 trade partners in 2005, five countries had a two-digit average annual growth rate in their trade with Canada from 1995 to 2005.
- In 2005, China ranked second (\$29.4 billion) and fourth (\$7.1 billion) respectively in terms of Canada's total imports and exports.
- Tourism expenditures, including expenditures on transportation, were up in 2005. Air transportation expenditures rose 13.5 per cent. Both interprovincial and intraprovincial domestic travel were up in 2005.
- Transportation energy use increased by 3.5 per cent in 2004. While pipelines used 6.5 per cent less energy, marine and air used 10.9 and 9.7 per cent more, respectively, in 2004 than in 2003. Rail used 1.7 per cent more energy, compared with 3.5 per cent more used by road transportation.
- In 2005, increases in energy prices affected carriers' operating costs and transport service prices.
- Productivity gains in rail and air transportation in 2004 were due largely to labour productivity improvements. Average price increases for most transportation services were below inflation.

- In 2005, commercial transportation services accounted for 4.2 per cent of Canada's value-added GDP.
- In 2004, the importance of transportation to provincial/territorial GDP was most significant in Ontario and Quebec. Together, these provinces contributed 58 per cent of commercial transportation activity nationally under GDP.
- Investment in transportation accounted for 2.8 per cent of Canada's GDP in 2005.
- Overall transportation-related final demand accounted for 12.5 per cent.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2004/05, all levels of government combined spent \$21.9 billion on transportation expenditures net of transfers, \$1.5 billion more than in 2003/04. Federal, provincial and local government expenditures all increased. The largest increase was \$1.1 billion, spent by provincial/territorial governments.
- In 2004/05, all government levels collected \$15.6 billion in permit and licence fees and fuel taxes from transport users, 1.5 per cent more than the previous year.
- In 2005/06, direct federal transport expenses are expected to fall to \$2 billion, a drop of 3.4 per cent from 2004/05. The federal government's two main categories of transportation expenditures are a) operations and b) safety, security and policy activities.
- In 2005/06, total direct federal subsidies, grants and contributions are expected to grow to \$129.4 million, 46.2 per cent more than in 2004/05.
- Provincial, territorial and local governments spent \$18.9 billion on transportation in 2004/05, roughly 6.6 per cent more than in 2003/04. About 80 per cent of this went to highways and roads.
- In 2004/05, governments spent \$15.7 billion on roads and \$2.7 billion on public transit services. Federal and provincial governments spent \$2.4 billion on air, marine and rail transportation.

TRANSPORTATION SAFETY AND SECURITY

- A recent public opinion survey indicated that in the case of all four transportation modes, over 95 per cent of Canadians give transportation in Canada either a *moderately* or a *very safe and secure* rating.
- In 2005, Transport Canada maintained its regulatory and safety oversight responsibilities, implemented a number of improvement initiatives, and continued to implement Safety Management Systems in the air, rail and marine industries. In 2005, there was an increase in the number of aviation and rail transportation accidents and a decrease in marine accidents. There were fewer road and marine transportation fatalities; however, there was an increase in both aviation and rail transportation fatalities.
 - Rail-related accidents increased from 1,138 in 2004 to 1,249 in 2005. Rail-related fatalities increased from 101 to 103. Fatalities due to trespasser accidents decreased from 68 to 63. Crossing accidents at public automated crossings increased from 117 to 161, while at public passive crossings they increased from 65 to 73.
 - In 2004 (latest data), there was a 3.6 per cent decrease in road casualty collisions, a 1.3 per cent decrease in road-related fatalities and a 4.5 per cent decrease in road-related injuries.
 - There were 405 Canadian vessel accidents in 2005, down from 441 in 2004. As in previous years, the majority of marine accidents were shipping accidents. A total of 12 lives were reported lost in 2005, down from 21 reported the year before and below the previous five-year average of 15.4. A total of 22 confirmed vessel losses were reported. Fishing vessels accounted for 55 per cent of the total reported marine accidents, while commercial vessels accounted for 34 per cent.
 - There were 245 Canadian-registered aircraft involved in reported accidents, compared with 241 in 2004. Of these, 107 involved commercially operated aircraft, while the remaining 138 were associated with recreational aviation. Of the five commuter operations accidents reported in 2005, one was fatal. Of the 55 accidents related to air taxi operations, seven were fatal accidents causing 10 fatalities.

- In a context of approximately 30 million shipments of dangerous goods a year, a total of 412 accidents in the transportation of dangerous goods were reported in 2005, up from 370 in 2004. Also in 2005, seven fatalities and 41 injuries resulted from accidents involving dangerous goods. Of these, six injuries and no fatalities were directly associated to the dangerous goods themselves.
- Transportation security continued to be strengthened in Canada in 2005. Transport Canada continued to take action with other federal departments, other countries and international organizations, labour organizations, industry and other stakeholders.
 - Important aviation security initiatives in 2005 included legislative and regulatory enhancements, programs such as the Aviation Transportation Security Clearance, and international initiatives.
 - The development of a national marine security regime was pursued through regulatory enhancements, inspection and enforcement, the Marine Security Contribution Program, and the work of the Interdepartmental Marine Security Working Group.
 - Following the March 2004 train bombings in Madrid, Spain, a rail and transit intelligence sharing network was developed for Canada. In 2005, an Action Plan was announced to address security priorities and to enhance security for passenger rail, public transit and ferry operations.
 - In 2005, Transport Canada continued to work with others on the development of a National Critical Infrastructure Protection (CIP) Strategy. Transport Canada continued to enhance its ability to prepare for and respond to emergencies and crises.
 - Transport Canada continued to share information and best practices, increasing its capabilities to respond in the event of an incident in relation to the Chemical, Biological, Radiological, and Nuclear (CBRN) Response Project for the transportation of dangerous goods.

TRANSPORTATION AND THE ENVIRONMENT

- In 2003, 25.7 per cent of greenhouse gas (GHG) emissions in Canada came from the transportation sector: 74 per cent from road transportation, four per cent from domestic aviation, three per cent from rail and three per cent from marine. Off-road and pipelines accounted for the remaining 16 per cent of total transportation-related GHG emissions.
- Between 1990 and 2003, GHG emissions from on-road passenger travel increased by roughly 14 per cent; from on-road freight transport activity, they increased by 60 per cent. The passenger and freight transport activities over the same period increased by 23 and 120 per cent, respectively. This indicates that activity levels and GHG emissions had not tracked each other.
- Over the same period:
 - aviation GHG emissions grew by 17 per cent;
 - rail emissions dropped by about 17 per cent, despite a 30 per cent traffic growth; and
 - marine emissions decreased by four per cent.
- In 2005, on-road and off-road diesel engines accounted for roughly 70 per cent of transportation-related PM_{2.5} emissions and 54 per cent of transport-related NO_x emissions. Gasoline engines accounted for 87 per cent of transportation-related VOC emissions. Marine transportation accounted for 41 per cent of transportation-related SO_x emissions due to its use of a mix of diesel and heavy fuel oil. Since 1990, overall emissions of all these pollutants have declined.
- The voluntary Memorandum of Understanding between Environment Canada and the Railway Association of Canada on rail emission controls expired on December 31, 2005.
- The use of glycol, a fluid used to de-ice aircraft surfaces for safety purposes prior to flight departures, was reviewed in 2005.
- On April 5, 2005, the Government of Canada and the Canadian automobile industry signed an agreement whereby the carmakers will voluntarily work to reduce annual GHG emissions from light vehicles by 5.3 Mt in 2010.

- With respect to federal transportation-related initiatives:
 - As of December 2005, the Advanced Technology Vehicles Program assessed 126 vehicles for their fuel efficiency, emissions and safety performance, including the Mercedes-Benz Smart Car. In addition, 7.1 million Canadians have been reached through 145 special events undertaken to showcase and raise public awareness of advanced technology vehicles.
 - Approximately \$1.85 million were allocated in 2005 to 14 new demonstration projects under the Freight Sustainability Demonstration Program, one of the three components of the Freight Efficiency and Technology Initiative.
 - An agreement was signed in June 2005 with the Air Transport Association of Canada to voluntarily improve energy efficiency and so reduce GHG emissions by an average of 1.1 per cent a year.
 - In 2005, \$2.2 million were allocated under the Freight Incentive Program to ten projects aimed at purchasing and installing efficiency-enhancing modal transportation technologies and equipment.
 - Halifax, Waterloo, Toronto/Hamilton, Whitehorse and Vancouver received some support for their innovative community-based projects encouraging more sustainable transportation under the Moving on Sustainable Transportation program.
 - In 2005, a total of 27 projects were ongoing under the Moving on Sustainable Transportation Program.
- In 2005, rail car loadings increased five per cent to reach 284 million tonnes. In western Canada, volumes moved by rail increased five per cent to reach 157 million tonnes. In eastern Canada, volumes moved increased by four per cent to reach 128 million tonnes.
- Shipments of coal and coke increased to 35 million tonnes in 2005, chemicals decreased four per cent to 15.3 million tonnes, iron ore increased to 32 million tonnes, and forest products increased slightly to 50 million tonnes. Grain shipments totalled almost 27 million tonnes, still below the volumes reported in the 1990s, while rail shipments of fertilizer materials held steady in 2005 at 30.1 million tonnes, and automotive products fell almost six per cent to 4.9 million tonnes.
- Export rail tonnage decreased 0.3 per cent in 2005 to 76.4 million tonnes.
- Forest products and chemicals were the largest contributors to the rail export tonnage.
- The largest share of rail export volume to the United States originated in Ontario (23 per cent).
- In 2005, import rail tonnage increased by 15 per cent to 24.6 million tonnes. Imports of metals increased significantly. Automotive imports increased by 3.4 per cent.
- Fort Frances and Sarnia, both in Ontario, accounted for 20.2 and 16.2 per cent of rail-exported trade, respectively. Forest products and chemicals were the major commodities exported at these border crossings. In terms of value, the leading border crossing points for imports were Sarnia and Windsor, with automotive products topping the commodities exported through these locations.
- Class I railways moved 97.6 million tonnes of goods to and from Canadian ports in 2004, up significantly from the 83 million in 2003.
- British Columbia, Saskatchewan and Alberta experienced increases in rail-marine exports in 2004. Coal, forest products, grain, and fertilizer exports all increased. Rail-marine imports increased by 10.9 per cent in 2004, and Quebec and Ontario remained the two major destinations for this traffic.
- Intercity rail passenger traffic increased slightly in 2004. VIA Rail reported 2.6 per cent more passengers carried.
- The productivity of rail freight carriers increased by 2.8 per cent in 2004, while VIA Rail's productivity increased by 3.2 per cent.

RAIL TRANSPORTATION

- The rail system network remained relatively stable in 2005. The only track discontinuances (89 kilometres) were in Saskatchewan and Alberta made by Canadian Pacific Railway (CPR).
- Approximately 341 kilometres of track were transferred in 2005, and an additional 339 kilometres was the object of a reversion back to CN.
- Of total rail revenues in 2004, 90 per cent were generated by CN, CPR and VIA Rail.
- Class I railways consumed 2.1 billion litres of fuel in 2004, slightly more than in 2003 but less than in 1990.
- CN reported a five per cent increase in revenue tonne-kilometres in 2004, while CPR's output increased by almost 8.7 per cent.

ROAD TRANSPORTATION

- In September 2005, the Council of Ministers Responsible for Transportation and Highway Safety adopted a criteria-based National Highway System (NHS) made up of three categories of route types: Core, Feeder, and Northern and Remote. As a result of this decision, the NHS totalled 38,021 kilometres.
- On June 29, 2005, the date that the revised *Motor Vehicle Transport Act* (MVTA) would come into force was fixed by an Order published in the *Canada Gazette* Part II at January 1, 2006. On that same day, the Motor Carrier Safety Fitness Certificate Regulations also come into force, allowing the provinces and territories to monitor the safety performance of all extra-provincial motor carriers licensed in their jurisdictions. Revisions to the Federal Hours of Service Regulations for extra-provincial commercial vehicles (bus and truck) drivers were published in the *Canada Gazette* Part II on June 29, 2005 and will come into force on January 1, 2007.
- Heavy trucks crossing the Canada–U.S. border decreased about one per cent in 2004.
- TransForce Income Fund topped the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.
- Trucking firms carrying general freight accounted for almost 60 per cent of total revenues of large for-hire trucking firms in 2004, while the share of specialized trucking firms increased marginally.
- According to the 2004 Canadian Vehicle Survey, there are 17.7 million (in scope) light vehicles (i.e. gross weight less than 4,500 kilograms) in Canada. This includes 10.1 million passenger cars and station wagons, 2.8 million vehicles listed as vans, 3.4 million pickup trucks and 1.7 million sport utility vehicles (SUVs).
- Vans, SUVs and light trucks accounted for 45 per cent of vehicle-kilometres in 2004. They were driven on average more than cars and station wagons (17,000 versus 15,300 kilometres) and had a marginally higher vehicle occupancy ratio (1.75 persons) compared with 1.57 for cars and station wagons.
- In 2004, for the category of light vehicles, cars and station wagons accounted for 154 billion vehicle kilometres while vans and light trucks accounted for 128 billion.
- In 2004, there was an average of 555 vehicles per 1,000 people in Canada.
- According to the Canadian Vehicle Survey, there were 600,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 325,000 were medium-sized, weighing between 4,500 and 15,000 kilograms. Almost 277,000 were Class 8 (heavy) trucks, weighing more than 15,000 kilograms.
- Ontario (37 per cent), Alberta (25 per cent) and Quebec (13 per cent) accounted for 75 per cent of the heavy truck fleet.
- Heavy trucks accounted for 20 billion vehicle-kilometres in 2004, compared with seven billion for medium-sized trucks.
- Empty haul movements accounted for 14 per cent of heavy truck vehicle-kilometres in 2004, compared with about six per cent for medium-sized trucks.
- More than two thirds of all truck vehicle-kilometres were driven intraprovincially.
- In 2004 and 2005, the exports from Canada shipped by trucks totalled \$186.7 billion and \$188.8 billion, respectively. The imports from the U.S. shipped by trucks amounted to \$162.6 billion in 2004 and \$164.5 billion in 2005.
- In domestic activities, construction materials are the top commodities moved by trucks intraprovincially, followed by agricultural products, primary metals, metal and mineral products, and energy products.
- The main interprovincial trucking flow was the Quebec–Ontario route (both directions) accounting for \$41 billion worth of commodities or 30 per cent of the total interprovincial trade.
- Five commodity groups represented almost 80 per cent of total exports in 2004 and in 2005: automobiles and transport equipment, machinery and electrical equipment, other manufacturing products, plastics and chemical products, and base metals/articles of base metal. The same five commodity groups represented almost 88 per cent of imports.
- The busiest transborder trucking routes were Ontario–U.S. central region, Ontario–U.S. south region, and Ontario–U.S. northeast region, the three together accounted for almost 80 per cent of the shipments.
- Heavy truck activity across the Canada–U.S. border fell about one per cent in 2005 to 13.3 million two-way trips.
- The revenues of urban transit operators increased by 6.2 per cent in 2004. Overall, total transit output in Canada increased by 2.7 per cent, while prices rose by 3.4 per cent.
- In 2004, total factor productivity of transit systems decreased by 0.9 per cent.

MARINE TRANSPORTATION

- The National Marine and Industrial Council — an industry–government forum — was established in 2004 to enhance dialogue between the federal government and the marine industry, to promote linkages and coordination on marine sector initiatives, and to provide cohesiveness across a core group of federal departments with mandates and interests in marine transportation. The Council has held bi-annual meetings since its establishment.
- By 2005 year-end, 87 regional/local and remote ports and port facilities remained under Transport Canada's control.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached \$310 million in 2004, up 3.4 per cent from 2003. Vancouver and Montreal accounted for roughly 55 per cent of this total.
- Tonnage handled at CPA ports totalled 237 million tonnes of cargo in 2004.
- In 2004, CPAs handled 52 per cent of total port traffic.
- Of all fishing harbours, 682 were managed by harbour authorities at the end of 2005, while 322 were small craft harbours managed by the Department of Fisheries and Oceans Canada.
- Three of the four pilotage authorities experienced a deficit in 2005, a loss of less than \$4 million, somewhat less than the one reported in 2004.
- The Canadian Coast Guard's net expenditures in 2004/05 were \$502.9 million.
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 43 million tonnes of traffic in the 2004 season, basically the same volume as in 2004.
- In 2005, international cruise ship traffic decreased at Vancouver as well as at the four Eastern Canada ports served by cruise ships: Montreal, Quebec City, Halifax and Saint John.
- In 2004, marine freight traffic was estimated at 387 million tonnes, up 3.2 per cent from 2003. This total is made up of 69.4 million tonnes related to domestic flows, 128.6 million tonnes to transborder traffic and 189 million tonnes of other international traffic.

- A total of \$117.5 billion in trade was handled by marine transportation services, \$63.4 billion in imports and \$54.1 billion in exports.
- The value of Canadian international marine trade in 2004 was \$117.5 billion, including shipments via U.S. ports, a 9.3 per cent increase over 2003.

AIR TRANSPORTATION

- Jetsgo ceased operations on March 11, 2005.
- On May 9, 2005, a new rent policy was announced for federally owned airports, providing close to \$8 billion of rent relief for Canada's airport authorities over the course of existing leases.
- On November 10, 2005, the Government of Canada and the United States further liberalized the 1995 Canada–U.S. Air Transport Agreement, liberalizing access for air carriers to the other country's third country markets.
- Effective March 1, 2005, the Air Travellers Security Charge, introduced to fund the costs of the enhanced air travel security system put in place after the September 11, 2001, terrorist attacks, was further reduced to \$5 for one-way domestic travel, \$8.50 for transborder travel and \$17 for other international air travel.
- Under the Multiple Designation Policy, the Minister of Transport in 2005 announced that Air Transat was to serve Greece, and SkyService would serve Russia.
- In 2005, new air bilateral agreements were negotiated with the People's Republic of China, Greece and India.
- Negotiations with France and Panama were inconclusive.
- In 2005, a total of 64 projects at 48 airports were announced under the Airports Capital Assistance Program.
- Several large airports experienced increases in passenger volume handled in 2004, yet operating revenue performance for airport authorities was mixed, as one third experienced declined revenues, and one third experienced increases of more than 10 per cent.
- Air Canada, with its subsidiaries, remained Canada's largest airline in 2005, with \$9.5 billion in revenues between October 1, 2004, and September 30, 2005, and serving 12 points in Canada, 33 in the United States and 59 internationally. The Air Canada family of companies includes Jazz operating on less busy domestic and transborder routes, Air Canada Vacations offering tour packages, and Jetz offering premium charter services to sport teams and businesses. Three independent local service operators offered regional services on behalf of Air Canada: Air Georgian, Exploits Valley Air Services and Central Mountain Air.

- Low-cost, no-frills carriers offering domestic and transborder services in 2005 included WestJet, and CanJet.
- Canadian leisure carriers providing international services to leisure destinations in 2005 included Air Transat, Skyservice Airlines, and Harmony Airways.
- Airlines providing year-round scheduled and charter services across northern Canada included First Air, Canadian North and Air North. Aklak Air, Kenn Borek Air and North-Wright Airways complement the other airlines by offering flights to the most remote communities in the Arctic.
- Twenty-five U.S. airlines served 20 Canadian cities, and 43 foreign airlines provided services from Canada to 57 international destinations in 39 countries.
- A number of all-cargo airlines provided jet service in 2005 on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers: Cargojet Canada, Kelowna Flightcraft and Morningstar Air Express.
- At the end of 2005, more than 2,300 airline licences were active, an indication of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2005, mainly as a result of fractional ownership.
- Canada's air trade with countries other than the United States increased significantly in 2004.
- The number of tonnes carried by Canadian air carriers increased by five per cent in 2004.
- Air passenger traffic in 2005 set record levels at over 63 million passengers, six per cent more than in 2004. Domestic traffic grew by four per cent, while the transborder and international sectors grew by seven per cent.

The 2005 Annual Report presents the state of transportation in Canada using the most current information available.

In the *Canada Transportation Act* (1996), a statutory responsibility exists for the Minister of Transport to table, every year, an annual report on the state of transportation in Canada. Section 52 of the Act defines the mandate and the nature of this responsibility:

"Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

- (a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;
- (b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expense;
- (c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and
- (d) any other transportation matters the Minister considers appropriate."

This annual report, *Transportation in Canada 2005*, is the tenth submitted by the Minister since the *Canada Transportation Act* came into force. To produce this document, the most current data and information available was used to present an overview of transportation in Canada. It is important to note that data for 2005 was not always available. While the scope of the report goes beyond federal transportation responsibilities, urban and intermodal transportation matters receive limited coverage. Nevertheless, the document offers broad and comprehensive coverage of the country's transportation system.

An Addendum, posted on Transport Canada's Web site, contains more detailed information on subject matter covered in the report. Readers interested in more detailed and/or greater time series information are invited to consult this Addendum at www.tc.gc.ca. Individual references to the Addendum are found either in the main text of the report or in footnotes to the tables and figures. Information contained in tables or used to produce figures in last year's report are either updated in the report or found in tables in the Addendum. In addition, all annual reports since 1996 are accessible on Transport Canada's Web site at www.tc.gc.ca.

Transportation is omnipresent in all social and economic activities. It opens markets to natural resources, agricultural products and manufactured goods, it supports service industries, and it alleviates the challenges delimited by topography. Transportation also links communities and reduces the effects of the distances separating people from each other. Such essential roles of transportation are indicative of transportation's intertwined and interdependent relationships with the economic and social fabric of our society. However, transportation needs evolve over time as circumstances and conditions change.

Changes in economic activities impact transportation demand. The changes can take place at various levels, such as at the regional or sectoral level. It is important to remind ourselves that the demand for transportation services is a derived demand and originates from all sectors of the economy.

The review of the state of transportation starts with a review of the performance of the Canadian economy (Chapter 2). Detailed information related to employment, trade and tourism can be found in the Addendum. Detailed information on transportation energy consumption is also accessible in the Addendum.

Chapter 3 presents the most recent information on government transportation spending and revenues. This chapter addresses the Section 52 (b) requirement related to the statutory mandate for the annual report. Some of the government transportation spending is directed at specific transportation system infrastructure assets. Although the private sector also makes expenditures on and investments in Canada's transportation system, these are not covered in this chapter. The reader must keep in mind that the public sector does not plan nor fully control all such expenditures and investments.

In Chapter 4, a review of safety and security in the transportation system is presented. The safety of the country's transportation system remains a fundamental priority for Canada. The most recent accident and incident statistics by mode are reported in the chapter, providing an up-to-date overview. The more recent enhancements to security since the events of September 11, 2001, are also covered in this chapter.

Chapter 5, a review of transportation and the environment, devotes special attention to environmental trends in transportation, including the aspects related to climate change. An overview of the climate change initiatives is presented. This chapter also reviews environmental management-related matters associated with Transport Canada responsibilities and activities.

Chapters 6 to 9 give the most recent information on transportation by modes. Rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9) cover special events in 2005, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation is regrouped in Chapter 7, with coverage of the same subject matter that can be found in the three modal chapters.

Most of the data presented in this report or in the Addendum came from organizations other than Transport Canada. The onus for data validation rests with such external sources. Proper care and attention to data quality and limitations was taken during the production of this report, and footnotes are used where needed to flag issues. When issues were identified, they were flagged to the source of the information and if the validity of the information was confirmed, the issue was not pursued further given the constraint of the statutory deadlines under which the report has to be produced. With only a few exceptions, which are noted, no attempts were made to circumvent data limitations by estimating. Finally, this report does not attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY

2

*The most significant source of economic growth in 2005
came from consumer expenditures.*

CANADIAN ECONOMIC PERFORMANCE

The Canadian economy continued to perform well in 2005 as real gross domestic product at market prices grew 2.9 per cent, the same rate as in the previous year. Growth was strongest in the second and third quarters. During the year, energy prices, interest rates and the value of Canadian dollar all rose. Consumer expenditures, business investment and government spending all provided strength, while net exports were a drag on the economy as imports grew twice as fast as exports. High commodity prices resulted in strong growth in the resource rich western provinces while the high value of the Canadian dollar hurt the manufacturing sector in the central provinces.

Consumer expenditures increased 4.0 per cent, the largest increase since 2000, and contributed the most to economic growth. Retail sales were 6.3 per cent higher in 2005 than in 2004 when they increased 4.7 per cent. New motor vehicle sales increased 3.5 per cent in 2005, the first increase since 2002, as purchasers responded to "employee pricing" offers and other incentives. New housing starts numbered 233,900, down 4.1 per cent from 2004 but still the second highest since 1988. Investment in residential construction rose 3.3 per cent, less than half the 8.3 per cent increase in 2004, while investment in non-residential structures increased 6.8 per cent, up sharply from the 0.8 per cent last year. Investment in machinery and equipment was strong for the third year in a row as it rose 10.7 per cent in 2005. Overall business investment increased 6.9 per cent the same as the previous year. Government spending on goods and services rose 2.8 per cent while investment by government rose 4.2 per cent. The international sector once again was a weakness as exports of goods and services increased 2.3 per cent in real terms while imports increased 7.0 per cent compared with increases of 5.0 per cent and 8.1 in 2004.

Table 2-1 shows economic indicators in Canada for 2005.

TABLE 2-1: GENERAL ECONOMIC INDICATORS, 2004/05

		Percentage change 2005 2004 – 2005	Annual percentage change 1999 – 2004
GDP at Basic Prices			
(millions of constant 1997 dollars)			
Total Economy	1,079,342	3.2	3.1
Goods	341,245	3.0	2.6
Agriculture	14,296	5.8	(2.3)
Forestry	7,180	(0.3)	4.2
Mining	41,193	1.9	3.3
Manufacturing	185,217	2.4	2.3
Construction	63,341	4.6	5.5
Services	738,097	3.3	3.4
Retail trade	63,092	4.6	4.9
Transportation	45,195	4.3	2.5
Merchandise Trade			
(millions of dollars)			
Exports	453,404	5.7	3.1
Imports	386,749	6.5	2.1
Income (dollars)			
Personal Disposable Income per capita	24,099	3.1	3.6
Canadian Dollar			
(U.S. cents per unit)	82.5	7.4	2.7
Employment (thousands)	16,170	1.4	2.1
Population (thousands)	32,271	0.9	1.0
Prices			
Total Economy (1997=100)	118.3	3.1	2.5
Consumer Price Index (1992=100)			
All Items	127.3	2.2	2.4
Transportation	150.7	4.1	3.1

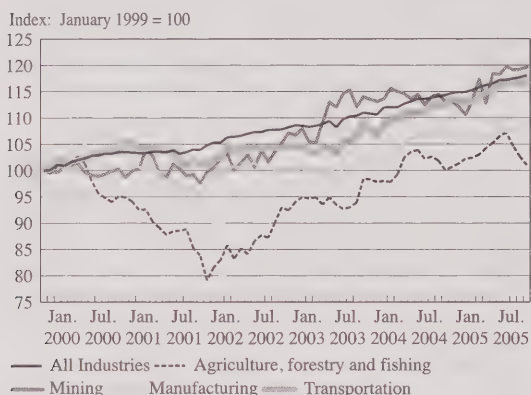
Source: Statistics Canada Cat. No. 11-010, 13-001, 15-001, 62-010; Bank of Canada

GDP at basic prices by industry grew 3.2 per cent in real terms in 2005, similar to the previous year. Output in the goods sector of the economy grew at 3.0 per cent while the services sector grew by 3.3 per cent. The lower growth rate in the goods sector reflects the relatively low growth (2.4 per cent) in manufacturing output. Motor vehicle production declined in the first half of the year but recovered in the second half. In the primary sector,

agriculture grew 5.8 per cent; however, forestry declined 0.3 per cent. The mining sector grew 1.9 per cent as oil and gas exploration advanced 14 per cent but oil and gas extraction fell 1.5 per cent due to production difficulties. Construction output grew by 4.6 per cent with both non-residential activity and residential activity. Retail and wholesale trade advanced 4.6 per cent and 7.8 per cent, respectively. Transportation services grew 4.3 per cent and benefited from the movement of resource commodities and consumer goods.

Figure 2-1 shows the changes in real GDP since 2000.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 2000 – 2005



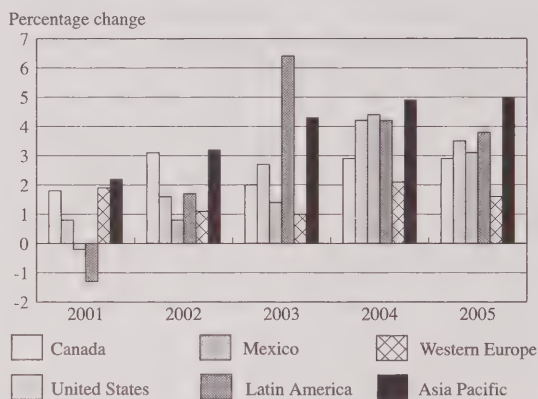
Source: Statistics Canada Cat. No. 15-001

The world economy grew 3.5 per cent in 2005, which, while down from the 3.9 per cent growth in 2004, was very respectable. It survived high oil prices and was supported by a strong U.S. economy and by growth in China and Japan. In the United States strong consumer spending, equipment and software purchases, exports and residential construction contributed to 3.5 per cent growth, down from 4.2 per cent growth the previous year. While the fall in the value of the U.S. dollar helped exports, high energy prices increased imports and the trade deficit widened by \$100 billion. Consumer spending was buoyed by employment and high real estate prices. The Mexican economy grew by 3.1 per cent in 2005, benefiting from strong domestic demand and exports to the United States. Latin America grew by 3.8 per cent in 2005 down from 4.2 per cent in 2004. Brazil's growth rate fell from 4.9 per cent to 2.3 per cent reflecting tight monetary policy and the effects of a political crisis on consumer and business confidence. Western Europe's growth rate was only 1.6 per cent in 2005, down from 2.1 per cent the previous year and reflects the impact of high energy prices as well as structural difficulties particularly in Germany, France and Italy. Growth in the

United Kingdom economy fell from 3.2 per cent in 2004 to 1.8 per cent in 2005. Growth in the Asia-Pacific region was 5.0 per cent in 2005, basically unchanged. For the second year in a row Japan had respectable economic growth at 2.7 per cent. China continued with very strong growth, 9.9 per cent in 2005, fueled by exports and investment. China is now the third largest exporter in the world.

Figure 2-2 compares Canada's economy with that of other regions from 2001 to 2005.

FIGURE 2-2: REAL GDP: CANADA AND OTHER REGIONS, 2001 – 2005



Note: GDP at market prices.

Source: Global Insight, Statistics Canada Cat. 13-010, U.S. Bureau of Economic Analysis

In 2005, merchandise exports on a balance of payments basis increased by 5.7 per cent while imports increased by 6.5 per cent, resulting in a goods surplus of \$66.7 billion up less than one per cent from 2004. In terms of value, energy exports increased due to a rise in energy prices while the value of forestry and automotive product exports declined. Exports to the U.S. rose 5.2 per cent, 7.4 per cent to the European Union and 5.3 per cent to Japan while imports increased 3.4 per cent from the U.S., 5.0 per cent from the European Union and 11.6 per cent from Japan.

The value of Canadian dollar against the U.S. dollar fell in the first part of 2005 from the 2004 close of US\$0.824 to its low for the year of US\$0.794 in May. It then rose to close the year at a 13-year high of US\$0.863. The average value of the Canadian dollar against the U.S. dollar increased 7.4 per cent in 2005 and has risen 28 per cent from January 2002 to December 2005. The rise of the Canadian dollar reflects the fall in the value of the U.S. dollar as well as an increase in commodity prices.

General prices in the total economy as measured by the GDP deflator rose 3.1 per cent in 2005, up very slightly from the 3.0 per cent increase in 2004. Consumers paid 2.2 per cent more on average for goods and services in 2005 than they did in 2004; this was up from the 1.9 per cent increase in 2004. The main factor behind the increase in inflation was the increase in energy prices, which rose 9.7 per cent compared with the 6.7 per cent increase in 2004. Another contributing factor was a 5.2 per cent increase in home ownership replacement costs. Transportation prices rose 4.1 per cent compared with a 2.4 per cent increase in 2004 as gasoline prices rose 12.8 per cent.

Disposable income per capita rose 3.1 per cent in 2005 in nominal terms compared with a 2.9 per cent increase in 2004. In real terms, disposable income per capita rose 1.5 per cent, the same rate as it did in 2004.

The average number of persons employed in Canada rose 1.4 per cent to 16,170 thousand in 2005, and follows a 1.8 per cent increase in 2004. The labour force grew only 0.9 per cent in 2005 and this along with the employment growth pushed the unemployment rate down to 6.8 per cent, the lowest rate since 1974. By mid-year the population of Canada rose to 32.3 million, up 0.9 per cent from 2004.

PROVINCIAL ECONOMIC PERFORMANCE

In 2005, western Canada continued to have stronger growth than central and eastern Canada. The West's economy was driven by the demand for resource commodities. This drove up the value of the Canadian dollar and caused problems for the manufacturing industries of Ontario and Quebec. Newfoundland and Labrador improved its economic performance in 2005 but had the lowest growth rate of the provinces as a result of declines in oil production, which were due to accidental spills and system problems.

While the primary sector struggled in Prince Edward Island, the manufacturing and construction sectors did well. In Nova Scotia, the service sector, particularly retail and wholesale trade, was strong but the fishing industry was hurt due to quotas and the weather. In addition, natural gas production fell. Investment activity and consumer demand helped the New Brunswick economy while manufacturers were affected by the high dollar and by high energy prices. Consumer demand for cars and other large purchases helped the Quebec and Ontario

economies as the manufacturing sector adjusted to the high dollar. This was aided by strong U.S. demand particularly for motor vehicles. Investment in machinery and equipment was strong in both provinces as businesses improved their competitiveness. While residential construction cooled, it was still strong. Heavy rainfall and cool temperatures adversely affected agriculture in the three western provinces. In Manitoba, manufacturing fared well in 2005, and heavy rainfall pushed up hydroelectric production. Sales of potash, uranium and energy as well as investment in these industries provided strength to the Saskatchewan economy. Alberta, driven by energy investments and exports, had the strongest growth of all provinces. People continue to migrate to Alberta to take advantage of the prosperity affecting many sectors of the economy there. British Columbia's forestry industry was strong in 2005 as it benefited from the housing boom taking place in both Canada and the United States.

Table 2-2 shows provincial economic performance in 2004/05.

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2004/05

(GDP at basic prices in chained \$1997)

	Percentage Change 2004-05	Percentage Change 1999 - 2004
Newfoundland and Labrador	0.2	5.1
Prince Edward Island	1.9	2.3
Nova Scotia	1.5	2.6
New Brunswick	0.3	2.5
Quebec	2.2	2.6
Ontario	2.9	3.0
Manitoba	2.7	2.2
Saskatchewan	3.5	1.6
Alberta	4.7	3.7
British Columbia	3.6	3.1
Territories	1.4	8.3

Source: Statistics Canada

INTERNATIONAL TRADE AND TRADE CORRIDORS

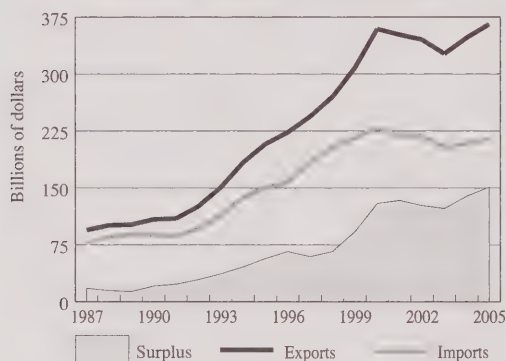
By the end of 2005, exports and imports of merchandise had both hit record highs since the 2000 peak, reaching \$435 billion and \$378 billion, respectively. Canada's trade surplus with the rest of the world, however, increased by only one per cent over 2004, as the trade deficit increase rate (14 per cent) with non-U.S. countries far exceeded the U.S. trade surplus increase (9 per cent).

TRADE WITH THE UNITED STATES

In 2005, the United States remained by far Canada's most important trading partner, capturing 71 per cent (in value) of Canada's total trade with the world. That share had peaked at 78 per cent in 1999. Exports to the United States represented 84 per cent of Canada's total exports to the world, a share that has been stable at 84 to 86 per cent since 1998. By contrast, Canada's imports share from the United States has continuously decreased since 1998 when it peaked at 68 per cent of total imports from the world before reaching a record low of 57 per cent in 2005. As a result, Canada's annual surplus with the United States has enjoyed an annual average growth of 10 per cent over the last 10 years due mainly to the vitality of its exports¹ to this country.

Figure 2-3 tracks the value of trade with the United States from 1987 to 2005.

FIGURE 2-3: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1987 – 2005



Note: Customs-based trade data; Preliminary data for 2005.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

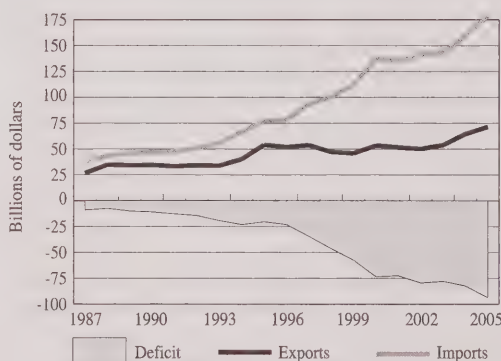
After peaking at \$589 billion in 2000, Canada's trade with the United States totalled \$580 billion in 2005, an increase of four per cent over 2004. In terms of value, trucks carried 60 per cent of this trade, followed by rail (17 per cent), pipeline (14 per cent), air (6 per cent) and marine (3 per cent). Trucking was the dominant mode for exports (51 per cent) and imports (77 per cent). By volume,² pipelines ranked first at 33 per cent (mainly in exports), followed by trucks (31 per cent), rail (18 per cent) and marine (17 per cent).

The most important trade flows between Canada and the United States involved Ontario and the U.S. Central Region,³ totalling \$167 billion — \$84 billion from and to Michigan alone. Four of the top six Canada-U.S. trade flows involved Ontario. However, out of 14 trade flows, flows involving Alberta and U.S. regions showed the greatest growth in 2005 over 2004 (over 20 per cent), while flows including Ontario showed almost no growth for the same period. Close to 76 per cent of the Canada-U.S. trade carried by trucks (value) was concentrated at six border crossing points: Windsor/ Ambassador bridge, Fort Erie, Sarnia and Lansdowne in Ontario, Lacolle in Quebec and Pacific Highway in British Columbia.

TRADE WITH OTHER COUNTRIES

In 2005, Canada's trade with other countries increased by 11 per cent, totalling \$233 billion, driven by imports valued at \$163 billion. Because Canada's exports to non-U.S. countries have grown at a slower pace than imports from these countries, the trade deficit with them has been increasing, especially since 1995. Imports from other countries (mainly Asian countries and more specifically the People's Republic of China) have generally exceeded Canada's exports to these countries. In 2005, approximately 41 per cent of Canada's trade deficit with other countries was linked to Asian countries, compared with 24 per cent in 1995. As Figure 2-4 shows, Canada's trade deficits with non-U.S. countries have grown at an annual average rate of 16 per cent in last 10 years.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND OTHER COUNTRIES, 1987 – 2005



Note: Customs-based trade data; Preliminary data for 2005.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

1 Another factor favouring Canada's exports to the U.S. was the value of the Canadian dollar against the U.S. currency, which made the Canadian goods relatively less expensive to American consumers (especially over the 1994-2003 period).

2 2004 modal rankings are applied as 2005 volume trade data are not available (under revision).

3 The U.S. Central Region includes states bordering the Great Lakes area, i.e., states of Michigan, Ohio, Indiana, Illinois, Wisconsin; also the states of Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

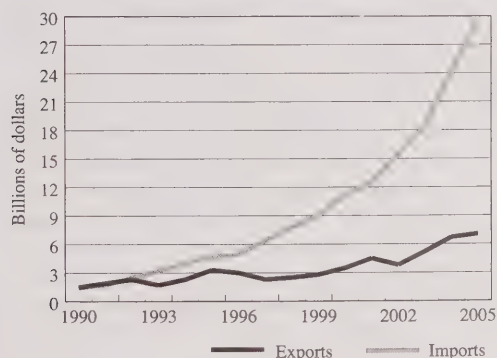
Both in terms of value and volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with overseas countries. In 2005, six trade flows accounted for almost 75 per cent of Canada's total trade with countries other than the United States. Four of these were two-way flows between eastern provinces and Western Europe (\$20 billion in exports, \$46 billion in imports) and between western provinces and Asian countries (\$17 billion in exports, \$20 billion in imports). The other two trade flows of importance were imports from Asian countries (\$44 billion) and Latin American countries (\$24 billion), mainly Mexico to eastern provinces.

For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

NEW TRENDS AND GATEWAYS

From 1995 to 2005, the average annual growth rate for imports from non-U.S. countries reached 8.1 per cent, three times the rate of exports from Canada to these countries (2.5 per cent). Out of Canada's top 20 trading country partners in 2005, six countries had a two-digit average annual growth rate in trade with Canada over the 1995-2005 period: Algeria (28 per cent for imports), China (20 per cent for imports), India (13 per cent for imports), Brazil (12 per cent for imports), Mexico (11 per cent for imports, 11 per cent for exports) and Norway (10 per cent for imports). Addendum Table A2-10 lists Canada's top 25 trade partners in 2005 and includes their ranking and growth rate.

FIGURE 2-5: VALUE OF GOODS TRADED BETWEEN CANADA AND CHINA (PEOPLES REPUBLIC), 1990 – 2005



Note: Customs-based trade data; Preliminary data for 2005.

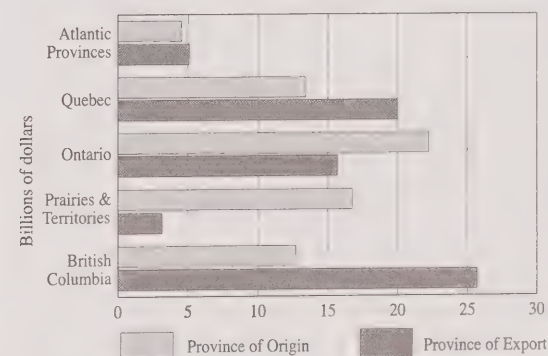
Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

China's increased trade with Canada and the U.S. has been a new driving force in North American business, putting more strain on transportation infrastructure and modal logistics. In the last five years (2000-2005), China's exports and imports to and from Canada recorded an average annual growth of 14 per cent and 21 per cent, respectively. In 2005, China ranked second (\$29.4 billion) and fourth (\$7.1 billion), respectively, in Canada's total imports and exports from and to the world. As a result, China has surpassed Japan and Mexico as a source of imports for both Canada and the United States. Figure 2-5 illustrates the evolution of Canada's trade with China since 1990.

Between 1995 and 2005, marine exports to China doubled to reach \$6 billion, while exports moved by air were more than five times their 1995 level and totalled \$863 million. On the import side, the pattern is similar with marine imports quadrupling, and air imports at 13 times their 1995 levels. As mentioned previously, in addition to China, countries such as Mexico, India, Brazil and others also showed strong growth in their trade with Canada in recent years.

The impact of this increased trade on the country's transportation system has been important in recent years. A significant proportion of this increased trade has been moving in containers, resulting in capacity bottlenecks. In 2005, Canada's total commodity exports to other countries (excluding the U.S.) totalled \$69.6 billion, including \$26 billion (37 per cent) shipped through British Columbia customs points (e.g., marine ports and airports) and \$20 billion (29 per cent) moved through Quebec customs ports. Figure 2-6 illustrates this increased trade by province of origin and by province of export. The present trade data does not allow for a similar view (by province of arrival) for imports.

FIGURE 2-6: CANADA'S TOTAL EXPORTS TO COUNTRIES OTHER THAN THE U.S., BY PROVINCE OF ORIGIN AND EXPORT, 2005



Note: Customs-based trade data; Preliminary data for 2005.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

Almost 75 per cent (by value) of Canada's exports to Asian countries were shipped through British Columbia customs ports, including 83 per cent of Canadian exports to Japan, 79 per cent of exports to South Korea, and 77 per cent of exports to China. Addendum Table A2-11 shows more details on Canada's exports moved through British Columbia's customs ports.

AREAS OF IMPORTANCE TO TRANSPORTATION

TRAVEL AND TOURISM

International travel to and from Canada fell 0.5 per cent in 2005, reversing the 3.2 per cent rise in 2004. Americans took 31.7 million trips to Canada in 2005, down 8.6 per cent. This included a drop in same-day automobile trips by Americans of 12.0 per cent over 2004 to 15.7 million, the lowest number on record. Overseas travellers made 4.5 million trips to Canada, an increase of 6.8 per cent and the highest number since 2000. Among the countries that contributed most to this number was China with the greatest increase, at 14.8 per cent. Overall non-resident trips to Canada fell 6.9 per cent in 2005. In 2005, Canadians made 44 million international trips, up 5.4 per cent overall with trips to the U.S. rising to 4.8 per cent and trips abroad to 8.7 per cent.

Table 2-3 shows international travel in 2005.

Domestic travel⁴ increased 1.6 per cent in 2004 (latest data) to 175.1 million trips, reversing the 8.3 per cent decline in 2003. Interprovincial trips, which account for 12 per cent of total trips, grew by 2.9 per cent, while intraprovincial trips grew by 1.5 per cent. Same-day trips grew by 0.6 per cent, and overnight trips grew by 2.7 per cent. The total number of trips was split fairly equally between same-day and overnight trips. Trips by automobile, which accounted for 92 per cent of trips, increased 1.6 per cent. Trips by rail had the largest increase at 17.3 per cent.

Tourism expenditures in Canada increased 6.8 per cent in 2005 to \$61.4 million, following a 6.4 per cent increase in 2004. Tourism spending by Canadians was stronger than spending by foreigners, increasing 9.4 per cent. This

TABLE 2-3: INTERNATIONAL TRAVEL, 2005

	2005	Percentage change from 2004
Trips by Canadians	44,030,945	5.4
To United States	37,793,994	4.8
Automobile	30,874,097	4.1
Same-day	22,278,101	3.5
Overnight	8,595,996	5.7
Airplane	5,189,358	11.8
To all other countries	6,236,951	8.7
Trips by non-residents	36,160,106	(6.9)
by U.S. residents	31,655,012	(8.6)
Automobile	24,486,323	(10.2)
Same-day	15,712,087	(12.0)
Overnight	8,774,236	(6.7)
Airplane	4,279,389	(1.1)
Trips by all other non-residents	4,505,094	6.8
Total international trips	80,191,051	(0.5)

Source: Statistics Canada cat. No. 66-001

was up substantially from the 3.7 per cent increase in 2004. Foreigners visiting Canada spent only 1.0 per cent more in 2005 on tourism than in 2004, when their spending had increased 12.9 per cent. Tourism spending on transportation increased 12.0 per cent in 2005 up from the 9.5 per cent in 2004. This included spending on air travel, up 13.5 per cent, and spending on motor vehicle fuel, up 15.1 per cent. Tables A2-12 to A2-22 in the Addendum provide more details on tourism.

EMPLOYMENT

The number of people employed in the transportation sector during 2005 was estimated to be approximately 860,200.⁵ This includes full- and part-time employees. By mode, the trucking and bus transport industries accounted for the greatest numbers of employees within the transport sector, with an estimated 356,000 employees (41.4 per cent) and 94,600 employees (11.0 per cent), respectively. Employment in air transportation services has recovered in recent years from its low of 76,900 employees in 2002, to reach 79,700 employees in 2005 — close to the 1998 level but still below the 86,000 thousand employees reported in 2000. Since the mid-1990s, the overall level of employment has increased in the bus industry, in trucking services,⁶ in taxi and limousine services, in marine transportation and in pipeline transportation. The 2005 estimate of 35,600 employees working in rail services reflects that industry's ongoing declining employment trend. That mode employed

4 Domestic travel refers to trips of at least 80 kilometres from a traveller's usual place of residence, excluding trips to or from work or school.

5 This estimate excludes private trucking employment.

6 A large increase identified in truck industry employment in 2004 (See Table A2-25 in Addendum), and reflected in that industry's estimated level of employment for 2005, is due to a 12 per cent increase in medium/large for-hire carriers (those earning annual revenues over \$1 million) in 2004 over the carriers counted in 2003.

67,000 employees in 1990. Employment in highway construction and maintenance, estimated at 56,900 in 2005, has remained relatively stable since 2000, fluctuating within the range of 1,000 employees.

For detailed information on employment and salaries in the transportation sector see tables A2-23 to A2-48 in the Addendum.

ENERGY CONSUMPTION

Overall, total domestic energy use increased by 1.1 per cent in 2004. Energy consumption grew in the forestry and construction sectors by 21.2 per cent and 5.6 per cent, respectively, by 3.5 per cent in the transportation sector and 2.5 per cent in public administration. The manufacturing sector (minus its transportation component) also increased its energy use by 2.1 per cent.

In other sectors, energy consumption decreased between 2003 and 2004. Those include the residential sector, which was down 2.6 per cent, and the agriculture sector, down 1.5 per cent. Mining and the commercial sector also reduced their overall energy consumption by 0.9 per cent in 2004.

In 2004, transportation represented 34 per cent of total energy consumption in the Canadian economy, which is the average ratio registered since 1997. The pipeline industry was the only sector where energy consumption decreased in 2004 (by 6.5 per cent). This follows a 15.2 per cent decline in the previous year. The greatest increases were registered in the marine and aviation sectors at 10.9 per cent and 9.7 per cent, respectively. After a decline in 2003, energy use by the rail industry grew by 1.7 per cent. Road energy use increased by 3.5 per cent, which is similar to the 3.2 per cent registered in 2003. Road transportation, including private vehicles, still represents 77 per cent of total transportation in terms of energy use. See tables A2-49 to A2-56 in the Addendum for more on transportation energy consumption.

The tremendous increase in fuel costs in the year 2005 affected not only all sectors of the Canadian economy but also the world as a whole. Already in 2004, the price of crude oil had increased by 33 per cent, moving from an average of US\$42 per barrel in 2003 to an average of US\$57 in 2004 (the price on the New York Mercantile Exchange). This increase was fueled by world demand — especially the demand for motor gasoline in North America — coupled with uneasiness on the markets about future supply of cheap crude oil. In particular,

reports circulated suggesting that Saudi Arabian reserves of sweet crude oil were not as extensive as previously assumed, and that future production would have to come from heavier oil, which is more expensive to extract and refine.

These factors remained in place in the first half of 2005, pushing the price on the New York Mercantile Exchange (NYMEX) over US\$59 per barrel in July (29 per cent over the 2004 average).

While Hurricane Katrina and the damage it caused to oil rigs and refineries in the American southeast is generally blamed for the high price of crude oil in August and September 2005, the hurricane had only started to form over the Bahamas on August 23. It hit New Orleans and the Central Gulf Coast on August 29. However, the NYMEX price had already reached US\$67.33 per barrel on August 12, following the established trend. Katrina only pushed the price to a record peak of US\$70.28 per barrel on August 30 while the damage was assessed.

The price did not get any higher, in large part due to the U.S. Strategic Petroleum Reserve. As early as August 29, the U.S. Secretary of Energy approved six emergency requests for loans of crude oil to a few refiners whose deliveries had been interrupted. And, on September 2, President Bush formally authorized the release of 30 million barrels of oil from the Reserve. Deliveries began the following day and continued until mid-November, reaching a total of 19.2 million barrels. Those loans, combined with offers of assistance from several countries, including Canada, helped calm the markets and prevent further increases in oil prices. The NYMEX reference price never went over the US\$70.28 per barrel quoted above. It started to decline immediately, averaging US\$59.87 in December 2005.

The price of crude oil is not the only variable putting pressure on the price of refined petroleum products. There have been no new refineries built in North America for over 25 years. Before Katrina, U.S. refineries were operating at 95 per cent capacity and the fear of a disruption in production and supply was already putting upward pressure on fuel prices. Between January and July 2005, the pre-tax price of refined products (as represented by motor gasoline, diesel # 2 and kerosene-type jet fuel) rose by 32 per cent against 25 per cent for the NYMEX price. This phenomenon was aggravated by the heavy damage sustained by a number of refineries in the American Southeast as a result of Katrina. At one point, a full 25 per cent of American refining capacity was out of commission. This put additional pressure on fuel prices.

From July to September, the price of crude oil increased by 11 per cent while U.S. gasoline rose by 32 per cent, diesel by 24 per cent and jet fuel by 22 per cent. From September to November, diesel and jet fuel prices fell at about the same rate as crude oil (11 per cent). On the other hand, possibly in response to consumers' outrage, the price of gasoline dropped by 25 per cent over the same period.

Due to integrated North American markets, Canadian fuel prices followed a similar pattern. The average price of gasoline (regular, self-service) in Canada rose from 78.9¢ per litre in January to 93.5¢ in July. In the first week of August, gasoline prices broke the psychological barrier of \$1.00 per litre in many parts of Canada, averaging \$1.05 countrywide. After Katrina, prices shot up, averaging \$1.26 for the week of September 6. Canadians had to wait until the end of October to see the national average fall below one dollar per litre. The year closed with the price of gasoline averaging 90.7¢ per litre across the country.

The retail price of diesel fuel followed a similar pattern, moving from 81.6¢ per litre in January to 94.5¢ in August. After Katrina, it moved to \$1.02 in September and \$1.07 in October, before starting a slow decline and ending the year at 95.6¢ per litre.

At the time of publication of this report, only partial data on fuel sales were available for 2005. The data seems to indicate that those price hikes had an impact on fuel consumption in Canada. For example, from January to August inclusively, retail sales of motor gasoline were 1.6 per cent above the average level for the same period in 2004. And, while September always brings a decline in consumption, this decline was more pronounced than usual in 2005. Retail sales fell by 13 per cent from August and were 1.6 per cent below their September 2004 level. Furthermore, total sales of gasoline in September were a full 3.5 per cent below the 2004 level. The impact on other fuels and modes is less obvious with sales of diesel and jet fuel remaining slightly above their 2004 levels in September.

The price increases have an impact on carriers' operating costs and in the price of transportation services. Overall, average energy costs in 2005 for all modes were about 34 per cent above their 2003 levels. Depending on their cost structures, the increases in the costs of energy since 2003 would have required increases of 5.3 per cent in air fares, 3.6 per cent in both trucking charges and urban transit fares (or subsidy), 3.3 per cent in rail freight charges and 2.1 per cent in VIA fares to maintain the same operating margin in each transportation sector.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

In 2004, productivity increased by 2.8 per cent and 4.8 per cent in the rail and air industry, respectively. These increases were largely the result of significant gains in labour productivity, estimated at 10.1 per cent for the rail industry and a more modest, but nevertheless significant, 6.4 per cent in the air industry.

The air industry experienced a 15.5 per cent increase in fuel unit costs in 2004; the same increase observed in 2003. Increases in fuel unit costs were in general more modest in other industries with the rail industry experiencing an increase of 1.7 per cent and public carriers facing increases of 1.4 per cent and 3.4 per cent for VIA Rail and Transit operators respectively. With respect to total unit costs, the rail and air industries and VIA Rail all experienced a net decrease on average due mostly to lower labour and capital costs. In contrast, total unit costs in the Transit sector increased by 2.2 per cent.

Transport prices and demand fluctuated in the rail and air industries in 2004. In the rail industry, freight prices increased on average by 1.5 per cent while demand rose by 5.9 per cent. In the air industry, prices for air cargo increased by 2.7 per cent while demand increased by 15.9 per cent thereby recouping a portion of the business lost in 2003. In the air passenger transportation area, prices were stable in spite of an increase of 9.4 per cent in demand. The demand for public passenger carriers rose by 2.4 per cent while prices for such services increased by 3.5 per cent on average. (See tables A2-57 to A2-65 in the Addendum.)

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

VALUE-ADDED OUTPUT OF COMMERCIAL TRANSPORTATION

Value-added estimates⁷ of output are available for transportation services that are offered on a commercial or for-hire basis. These estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

⁷ A value-added measure of output is referred to as net output and is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

Table 2-4 shows the contribution of the different modes to Canada's GDP in 2005.

TABLE 2-4: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP,¹ 2005

	Millions of constant 1997 dollars	Per cent of GDP
Industries		
Air	4,117	0.4
Rail	5,977	0.6
Water	1,431	0.1
Truck	15,454	1.4
Urban transit systems	3,242	0.3
Interurban and rural bus	196	0.0
Miscellaneous ground passenger transportation	1,864	0.2
Other transportation²	12,948	1.2
Transportation industries	45,225	4.2

1 Gross Domestic Product at Basic Prices.

2 Includes scenic and sightseeing, postal and courier services as well as support activities for other modes of transportation such as baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

Commercial transportation industries in Canada accounted for \$45.2 billion in 1997 dollars, or 4.2 per cent of the value-added GDP in 2005. This was unchanged up from 4.1 in 2004. The most important industry is trucking which made up \$15.4 billion or 1.4 per cent of the total output. The air and rail transportation industries accounted for \$4.1 billion or 0.4 per cent and \$6.0 billion or 0.6 per cent respectively, while urban transit accounted for \$3.2 billion or 0.3 per cent of GDP.

TRANSPORTATION-RELATED DEMAND

Table 2-5 shows transportation-related demand as a proportion of GDP.

In 2005, the total of all transportation expenditures for the final demand of goods accounted for 12.5 per cent of expenditures in Canada's economy. Personal expenditures on transportation were the largest part of transportation-related demand and accounted for 8.4 per cent of GDP. In 2005, these expenditures grew by 7.7 per cent. This growth was almost double the 4.1 per year average rate of the previous five years and reflects a 14.1 per cent increase in the purchase of transportation fuels and lubricants. Transportation equipment purchases, mostly motor vehicles, made up 3.6 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, made up another 3.7 per cent. Personal expenditures on commercial transportation made up 1.0 per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-66 in the Addendum.

TABLE 2-5: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2005

	Millions of dollars 2005	Per cent of GDP 2005	Per cent annual growth rate 2004 – 2005	Per cent annual growth rate 1999 – 2004
Personal Expenditures on Transportation	115,294	8.4	7.7	4.1
New and used transportation equipment	48,852	3.6	4.8	2.6
Repair and maintenance expenditures	15,616	1.1	6.6	5.9
Transportation fuels and lubricants	27,635	2.0	14.1	7.4
Other motor vehicle related services	8,271	0.6	5.5	4.9
Purchased commercial transportation	13,920	1.0	9.0	2.2
Investment in Transportation	37,964	2.8	11.5	N/A
Business investment in transportation	28,803	2.1	11.4	N/A
Transportation infrastructure (roads and railways)	2,217	0.2	6.1	(5.8)
Transportation equipment	25,430	1.9	11.2	0.9
Inventories	1,156	0.1	28.4	N/A
Government investment in transportation	9,161	0.7	12.1	6.4
Transportation infrastructure (roads)	8,224	0.6	12.4	7.6
Transportation equipment	937	0.1	10.2	(1.0)
Government Spending on Transportation¹	13,699	1.0	6.2	2.3
Road maintenance	8,431	0.6	3.4	2.9
Urban transit subsidies	2,691	0.2	(1.5)	1.0
Other spending	2,577	0.2	27.9	1.7
Exports	99,908	7.3	(1.5)	(1.1)
Automotive products	88,349	6.5	(2.2)	(1.5)
Commercial transportation	11,559	0.8	4.6	2.7
Imports	95,680	7.0	2.8	1.1
Automotive products	78,336	5.7	1.5	0.3
Commercial transportation	17,344	1.3	9.5	5.2
Total Transport-Related Final Demand	171,185	12.5	4.8	N/A
Gross Domestic Product at Market Prices	1,368,726	100.0	6.1	5.6
Transportation-related domestic demand	165,624	12.1	7.6	N/A
Final Domestic Demand	1,304,347	95.3	6.2	5.5

Note: N/A = Not available.

1 2004 figures: growth rates over previous year are growth rates over 2003

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

Investment in transportation made up 2.8 per cent of the GDP in 2005. Business investment in transportation was the largest part of this and accounted for 2.1 per cent of GDP. In 2005, business transportation investment rose by 11.4 per cent as business investment in transportation equipment rose by 11.2 per cent. Government investment is dominated by expenditures on roads, and accounts for 90 per cent of government investment spending on transportation and 1.0 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

Automotive trade dominated transportation exports and imports. Exports of automotive equipment, including parts, were equivalent to 6.5 per cent of the GDP, while imports were equivalent to 5.7 per cent in 2005. Automotive exports fell by 2.2 per cent in 2005, while automotive imports rose 1.5 per cent.

Transportation-related domestic demand made up 12.1 per cent of final domestic demand in 2005. This percentage is lower than for transportation-related final demand reflecting the importance of automotive products to Canada's external trade.

PROVINCIAL AND TERRITORIAL TRANSPORTATION SPENDING

COMMERCIAL TRANSPORTATION

Table 2-6 shows the importance of provincial and territorial commercial transportation⁸ to the Canadian total. In 2004, most of the commercial transportation activity took place in Ontario and Quebec, which together accounted for 58 per cent of the total commercial transportation measured in the GDP. Alberta and British Columbia accounted for another 29 per cent.

PERSONAL TRANSPORTATION

In 2004, Canadians spent \$107.1 billion on personal transportation. Of this total, Ontario residents spent 39 per cent, Quebec residents 23 per cent, British Columbia residents 13 per cent, and Alberta residents 12 per cent.

On a per capita basis, Alberta residents spent an average of \$3,849 on transportation in 2004, the most of any province or territory, while Nunavut residents spent the least, only \$1,191. Of the other provinces and territories, only residents of Ontario, Yukon and the Northwest Territories spent more than the national average of \$3,257.

TABLE 2-6: COMMERCIAL TRANSPORTATION AS A PER CENT OF GDP BY PROVINCE AND TERRITORIES, 2004

	Millions of dollars	Per cent of total Canadian	Per cent of total provincial/territorial
Newfoundland and Labrador ¹	455.4	1.1	3.0
Prince Edward Island ¹	79.8	0.2	2.4
Nova Scotia ^{1,2}	1,013.4	2.3	4.1
New Brunswick ^{1,2}	1,045.3	2.4	5.5
Quebec	9,324.9	21.6	4.2
Ontario	15,825.0	36.7	3.6
Manitoba ¹	1,950.6	4.5	5.8
Saskatchewan	1,218.7	2.8	3.7
Alberta	5,308.5	12.3	3.7
British Columbia	7,011.8	16.2	5.5
Territories ^{1,2}	184.2	0.4	3.7

Note: GDP at basic prices.

¹ Includes warehousing.

² Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

On average, transportation represented 14.8 per cent of the total personal expenditures of Canadians. Alberta, Quebec and New Brunswick residents spent more than 15 per cent of their total personal spending on transportation.

Personal expenditures on transportation represented 8.7 per cent of final domestic demand in Canada in 2004. The proportion was higher in New Brunswick, Quebec and Ontario, but only 5.8 per cent in the Yukon, 4.1 per cent in the Northwest Territories and 1.9 per cent in Nunavut.

Table 2-7 shows personal expenditures on transportation by province and territory in 2004.

TABLE 2-7: PERSONAL EXPENDITURES ON TRANSPORTATION BY PROVINCE AND TERRITORY, 2004

	Millions of dollars	Per capita dollars	Per cent of total provincial/territorial personal expenditures	Per cent of total Canadian personal transportation expenditures	Per cent of provincial/territorial final domestic demand
Newfoundland and Labrador	1,434	2,774	14.5	1.3	7.5
Prince Edward Island	392	2,843	14.4	0.4	8.1
Nova Scotia	2,866	3,059	14.4	2.7	8.3
New Brunswick	2,288	3,046	15.4	2.1	8.9
Quebec	24,904	3,302	15.9	23.3	9.3
Ontario	41,863	3,378	14.4	39.1	8.8
Manitoba	3,418	2,920	13.9	3.2	8.3
Saskatchewan	2,884	2,898	13.7	2.7	7.8
Alberta	12,324	3,849	15.4	11.5	7.9
British Columbia	13,668	3,262	13.9	12.8	8.5
Yukon	118	3,771	14.4	0.11	5.8
Northwest Territories	145	3,385	12.5	0.14	4.1
Nunavut	35	1,191	7.5	0.03	1.9
Canada	107,065	3,351	14.8	100.0	8.7

Source: Statistics Canada

⁸ Due to the unavailability of constant dollar estimates of provincial GDP by industry, only current dollar estimates of transportation are available. The latest year for which they are available is 2002. For some provinces and territories it is not possible to obtain estimates that do not include warehousing and/or pipelines for confidentiality reasons.

A CANADIAN TRANSPORTATION SATELLITE ACCOUNT (CTSA)

The measures of transportation services in the National Accounts System capture only the value of for-hire transportation services. For-hire transportation firms use transportation equipment, such as aircraft, trains, vessels, trucks, buses and taxis, as well as labour and energy, to offer transportation services to users for a fee in the market place. However, for-hire activities do not capture all transportation activities in the economy. Businesses also produce their own transportation services in support of their main line of activity, but these are not classified as one of the transportation industries in National Accounts. Instead, they are "own-account" transportation services and are captured under the industry producing them, not under "transportation."

A Satellite Account approach measures both "for-hire" and "own-account" transportation services, thus providing a more comprehensive measure of transportation services in whatever industries they occur. For instance, measuring transportation activities solely as "for-hire" would not factor in (identify and measure) retail establishments' own transportation activities used to move goods from warehouses to retail stores. Other countries have developed a transportation satellite account model. For example, the U.S. Bureau of Transportation Statistics has used such an approach, although it has not done so for all modes of transportation.

Statistics Canada, with the financial aid and support of Transport Canada, has developed a Canadian Transportation Satellite Account (CTSA). The CTSA supplements the Input-Output (I-O) accounts, also maintained at Statistics Canada. Because the CTSA covers both for-hire and own-account transportation industries, the development of the CTSA meant rearranging the 2000 I-O data and adding transportation data from other sources to generate a more complete picture of the economic impact of transportation on the Canadian economy.

The Canadian study estimated not only own-account transportation services for private trucking and bus operations, as did the United States, but also for the air, rail and marine transportation modes. To develop the CTSA, the Census data and the available I-O accounts were used. As the year 2000 is the most recent year for which such important data sources were available, it was used for the CTSA. Transportation data from other sources were also used to provide a more complete picture of transportation activities.

The CTSA estimates offer several advantages for transportation analyses:

- They measure all transportation activities in terms of:
 - their contribution to the output of the economy,
 - their use of inputs from other industries, and
 - other industries' use of transportation services as inputs.

- They show the use of both for-hire and own-account transportation services by other industries.
- Unlike the I-O estimates, the scope of the CTSA estimates of total "transportation" values are not affected when firms switch from own-account to for-hire or vice versa.

The I-O accounts provide detailed estimates of commodities purchased by industries and categories of final demand. The I-O system has 15 for-hire transportation industries¹ and 29 transportation service commodities.² The "commodities" represent the main output of the transportation industries. Transportation industries move people or commodities, and/or contribute to the infrastructure needed to make the transportation system functional.

Given its detailed linkages between industries, the information in the I-O accounts was used as the analytical framework to prepare the CTSA estimates. This facilitated the estimates of the interdependencies between for-hire and own-account transportation and the rest of the economy. To determine the value of own-account transportation activities, the general valuation conventions used in the CTSA are consistent with the ones of the I-O accounts, with all transactions valued at producers' prices. The value of intermediate and value-added inputs associated with the production of own-account transportation services — for example, the purchase of gasoline or the employment of truck drivers by establishments not classified as a transportation industry — is moved from the non-transportation industries to newly defined own-account transportation industries by mode. The overall industry and commodity classification systems in the I-O accounts are augmented by the CTSA own-account transportation information to form new own-account industries and commodities, one for each mode of transport with own-account transportation constructed.

The CTSA data are presented in four tables: a production table, a disposition to intermediate and final demand table, a direct requirement table and a commodity-by-industry total requirement table, as in the I-O accounts. The difference is the four additional columns for the own-account transportation industries by mode and/or the four additional rows for own-account transportation commodities by mode. The total requirement table shows the sum of all the changes in industry outputs required to deliver a dollar's worth of the commodity (goods and services) to final demand users. This sum is referred to as an "output impact multiplier." It can be used to estimate the impact of changes in the final demand of commodities on total industry output. It can also be used to analyze the relative effects of an increase in the final demand for a product (e.g. manufactured products) on for-hire and own-account transportation and non-transportation industries. Own-account transportation commodities do not have impact

1 Air transportation, rail transportation, marine transportation, truck transportation, urban transit systems, interurban and rural bus transportation, taxi and limousine service, all other transit and ground transportation, pipeline transportation, scenic and sightseeing transportation, support activities for transportation, postal service, couriers and messengers, warehousing and storage, transportation margin. The transportation margin industry is a fictive industry created to account for transportation margins that originate on commodities in different industries for which there is limited statistical information.

2 Air transport, passenger; air transport, freight; air transport, specialty; services incidental to air transport; scenic and sightseeing transportation, bus; school bus and other transportation; ambulance services; travel agents, tour wholesale and operator services; parking services; other services incidental to transport; marine transport, passenger; marine transport, freight; marine transport, other; services incidental to marine transport; rail transport, passenger; rail transport, freight; services incidental to rail transport; truck transportation; bus transport, interurban and rural, passenger; bus transport, interurban and rural, parcel express; urban transit; taxicab transportation; highway and bridge maintenance; grain storage; other storage and warehousing; postal services; courier service; transportation margins. The transportation services required to bring a commodity from a producer to a consumer and paid for as part of the purchase price of the good are recorded as a transportation margin.

multiplier coefficients because consumers and other final demand users do not have a demand for own-account transportation services per se; these services are intermediate inputs.

Based on the CTSA, transportation services contributed \$63.8 billion to Canada's gross domestic product in 2000. Of this, \$37.2 billion was for-hire transportation and \$26.7 billion was own-account transportation services. When own-account transportation activities are included, transportation represented 6.3 per cent of the GDP in 2000. The inclusion of own-account transportation shows that:

- the influence of transportation on product prices is greater than what was previously thought; and
- the economic benefits of investment in the transportation infrastructure needed to support the production of transportation services may be larger than estimates based only on for-hire transportation data.

The CTSA shows that own-account and for-hire transportation activities consumed \$8.3 billion worth of petroleum products in 2000, while the I-O accounts show for-hire transportation industries consumed only \$6.3 billion in petroleum products.

The commercial, professional, personal and other service industry is the largest user of transportation services, spending \$16.4 billion in 2000. This industry uses \$11.6 billion worth of for-hire transportation services output. It is the third largest user of own-account transportation, spending \$3.7 billion, or 9.4 per cent of total own-account transportation.

Manufacturing is the second the largest user of transportation services, spending \$16.1 billion in 2000. It is also the second largest user of own-account transportation, spending \$5.2 billion, or 13.4 per cent of total own-account transportation. This industry uses \$3.3 billion worth of for-hire transportation services output.

The wholesale and retail trade industry is the third largest user of transportation services, spending \$15.4 billion in 2000. It is the largest user of own-account transportation, spending \$11.8 billion, or 30 per cent of total own-account transportation. This industry uses \$3.4 billion worth of for-hire transportation services output.

The automotive leasing, rental, repair and maintenance industry is the smallest user of transportation services spending \$0.4 billion in 2000. However of this total, 70 per cent was spent on own-account transportation.

The use of own-account transportation can also be measured in terms of its share of an industry's total costs. In these terms, the wholesale and retail trade industry is the largest user at 6.9 per cent, followed by the agriculture, forestry and fishing industries at 2.8 per cent and the automotive leasing, rental, repair and maintenance industry at 2.7 per cent. The same measure of for-hire transportation shows the commercial, professional, personal and other service industries with the largest direct requirement of 4.1 per cent of their total costs. This is followed by the education services industry at 2.9 per cent.

For-hire transportation industries produce and consume own-account transportation services when a given mode of for-hire transport produces and consumes the services of other modes, which are then regarded as own-account from the perspective of the given for-hire mode. Together, for-hire transportation industries accounted for \$9.3 billion in 2000 or 23.7 per cent of the total production of own-account transportation services. Of this total, the "other for-hire transportation service" industry accounted for \$4.2 billion while the trucking and delivery van service industry accounted for \$3.0 billion.

Trucking and delivery van services represented 63.5 per cent of the total value-added by transportation services in 2000, 37.1 per cent for own-account transportation and 26.4 per cent for for-hire trucking. Air services accounted for 8.3 per cent of transportation's total value-added, 7.3 per cent for for-hire and 1.0 per cent for own-account services. Rail services accounted for 7.0 per cent of value-added of transportation services, 0.6 per cent for own-account and 6.4 per cent for for-hire services. Urban, interurban and other ground transportation services assumed a 5.2 per cent share of the total value-added by transportation services, 1.1 per cent of own-account and 4.1 per cent of for-hire services. Marine transportation services assumed a 3.4 per cent share of the total value-added by transportation services, 2.0 per cent of own-account and 1.4 per cent of for-hire services.

From the CTSA, multipliers that capture the direct and indirect interdependencies between transportation and the rest of the economy can be derived. An increase of \$1 in final demand for the output of the wholesale trade industry requires an increase of \$0.13 in total transportation services output, compared with \$0.03 for the finance, insurance and real estate services industries.

Demands for for-hire transportation services are more sensitive to changes in the output levels of the goods-producing industries while the demands for own-account transportation services are more sensitive to changes in the output levels of the services industries.

GOVERNMENT SPENDING ON TRANSPORTATION

3

*Transportation expenditures by all levels of government
were close to \$22 billion in 2004/05.*

This chapter summarizes all transportation expenditures and revenues by level of government and gives an overview of the financial implications of public-sector involvement in transportation. A synopsis of federal and provincial revenues from transportation users is followed by a detailed breakdown of expenditures by level of government. Finally, the chapter presents consolidated expenditures broken down by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

Transportation expenditures by all levels of government reached approximately \$21.9 billion in 2004/05, an increase of \$1.5 billion, or 7.3 per cent from the previous year. Table 3-1 shows these expenditures from 2001 on. Transportation spending by governments on a per capita basis also increased 6.3 per cent to \$683. All levels of government contributed to this growth; however, the largest increase was by provincial/territorial governments, with an increase in their net spending of \$1.1 billion or 13.4 per cent. Local governments increased their net spending by \$25.8 million, or 0.3 per cent. Federal transport expenditures increased by \$328 million, or 12.4 per cent, and are expected to increase by \$338 million or 11.4 per cent in 2005/06. All government fees and tax revenues from transport users totalled \$15.6 billion in 2004/05, up 1.5 per cent. Federal non-tax revenues from transport users are expected to be basically unchanged in 2005/06 at \$789 million, following an increase of 0.9 per cent in 2004/05.

**TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES
ON TRANSPORTATION, 2001/02 – 2005/06**

	(Millions of dollars)				
	2001/02	2002/03	2003/04	2004/05	2005/06 ^F
Transport Canada expenses (Gross) ¹	1,529	1,352	1,382	1,431	1,499
Other federal expenses (Gross)	783	1,163	1,256	1,535	1,805
Provincial/Territorial ²	7,646	8,049	8,475	9,614	N/A
Local ³	8,421	8,671	9,278	9,304	N/A
Total gross transport expenditures	18,379	19,235	20,390	21,884	N/A
Gross expenditures per capita	591	612	642	683	N/A
Transport Canada revenues	371	423	334	365	397
Other federal revenues ⁴	37	460	449	425	392
Specific tax revenues from transport users ⁵	13,359	13,949	14,549	14,767	N/A

Notes: N/A = Not available. More yearly data are available on Transport Canada Web site (www.tc.gc.ca). Some figures from previous years have been modified and therefore do not match last year's report. Totals may not add up due to rounding.

1 Excludes transfers of \$22 million to Crown corporations not involved in transport in 2002/03 and 2003/04.

2 Net of federal transfers as reported by the provinces.

3 Calendar year basis; net of federal and provincial transfers.

4 Revenues from Coast Guard services and small port users.

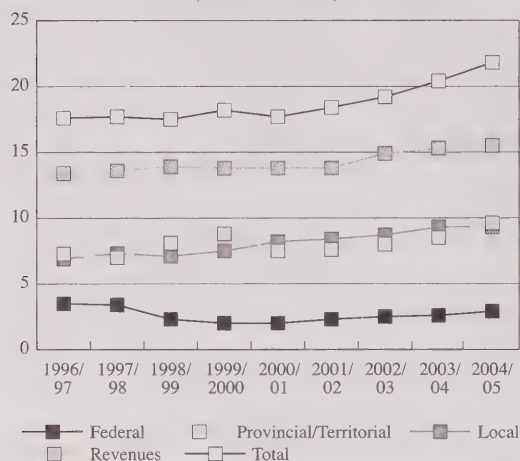
5 Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.

F Forecast at January 31, 2006, of full year.

Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate, The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial Departments of Transportation; Statistics Canada, Public Institutions Division, unpublished data

Figure 3-1 shows the trend in spending by level of government from 1996/97 to 2004/05. Up to 2000/01, total government expenditures averaged around \$17.8 billion, but have increased slightly in each of the past four years. Net local expenditures rose every year over this period, other than a slight decline in 1998/99. Both net provincial/territorial and federal expenditures have had larger periods of declines. Net provincial/territorial expenditures reached \$8.8 billion in 1999/2000, but then fell to \$7.5 billion in 1999/2000. Only in 2004/05 did they surpass the previous peak. Federal expenditures fell from \$3.5 billion in 1996/97 to \$2.0 billion in 1999/2000 and 2000/01 after which they rose steadily to reach 3.0 billion in 2004/05. Total revenues have also risen each year after hovering around \$13.7 billion until 2001/02.

FIGURE 3-1: GOVERNMENT EXPENDITURES AND REVENUES ON TRANSPORTATION, 1996/97 – 2004/05
(Billions of dollars)



Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; internal reports from several agencies and federal departments; provincial/territorial departments of transportation; Statistics Canada, Public Institutions Division, unpublished data

FEDERAL EXPENSES RELATED TO TRANSPORT FACILITIES AND SERVICES

The Government of Canada provides modal safety, security and policy services, and operates roads and bridges, airports, harbours/ports and marine navigational and rescue services (Coast Guard). From security and emergency preparedness to regulating and monitoring the transportation of dangerous goods, Transport Canada performs several multimodal activities. As Table 3-2 shows, total direct federal transport expenses in 2005/06 are forecast to fall by 3.4 per cent to \$2.0 billion. The two main categories of government activity in transportation are: operations; and safety, security and policy. Expenses related to operations have been fairly constant for the past six years but are expected to decrease by \$27.9 million (2.9 per cent) in 2005/06 to \$950 million. Expenditures on safety, security and policy are also expected to decrease in 2005/06, falling by \$51 million or 5.2 per cent to \$930 million. Prior to this forecasted decline, spending in this category had risen by \$628 million since 2000/01, peaking at \$981 million in 2004/05. Major increases in recent years are related to commitments to security in the air sector, in particular, spending by the Canadian Air Transport Security Authority.

TABLE 3.2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 2001/02 – 2005/06

	(Millions of dollars)				
	2001/02	2002/03	2003/04	2004/05	2005/06 ^F
Operations	945	934	924	978	950
Airports	75	56	75	59	47
Aircraft services	59	57	62	65	65
Coast Guard	475	498	505	543	548
Ports and harbours ¹	117	118	126	137	116
Roads and bridges ²	208	193	149	163	164
Research and development	10	13	10	10	10
Safety, Security and Policy	446	686	791	981	930
Canadian Air Transport Security Authority		259	351	513	438
Air Safety and Policy ³	162	169	190	173	157
Marine Safety and Policy ⁴	56	59	58	105	126
Road and Rail Safety and Policy	46	53	48	49	51
Multimodal Policy and Safety ⁵	181	146	144	142	157
Corporate Services of Transport Canada	124	131	119	121	129
Total	1,514	1,750	1,834	2,080	2,009

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes expenses for small fishing ports by Fisheries and Oceans Canada.

2 Includes contributions by Transport Canada to the Jacques Cartier and Champlain Bridges, and expenses of the National Capital Commission, Public Works and Government Services Canada, Parks Canada, and Indian and Northern Affairs Canada.

3 Includes expenses of the Civil Aviation Tribunal.

4 Includes statutory payments to St. Lawrence Management Corporation for Capital Cash Fund Requirements of \$17.5 million in 2004/05 and \$28.0 million in 2005/06.

5 Includes expenses for the regulation and inspection of the transportation of dangerous goods, Security and Emergency Preparedness, the Canadian Transportation Agency, and other multimodal safety, policy and analysis. Large increases in 2001/02 related to the purchase of explosive detection equipment.

F Forecast January 31, 2006 of full year.

Source: Transport Canada

FEDERAL SUBSIDIES TO TRANSPORTATION

In 2005/06, total federal direct subsidies, grants and contributions are projected to be \$1,294 million, an increase of \$409 million or 46.2 per cent. Subsidies to the air mode are expected to rise 7.0 per cent to \$45.1 million. Marine subsidies increased 77 per cent to \$250 million as port divestiture payments increased \$44 million, there were expected to be new marine security payments of \$33 million and there was a \$35 million payment to the Toronto Port Authority for a litigation settlement. Subsidies to the rail mode decreased by \$15 million, reflecting a \$22 million drop in payments to VIA Rail. Highway mode subsidies are expected to rise by \$310 million in 2005/06 although highway agreement payments are scheduled to drop \$43 million, payments by Infrastructure Canada are forecast to increase by \$344 million. Table 3-3 gives more details on these subsidies.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 2001/02 – 2005/06

(Millions of dollars)

	2001/02	2002/03	2003/04	2004/05	2005/06 ^F
Air Mode					
Airport (Operation & Capital)	50.6	35.3	38.4	30.6	43.2
Airport/airline assistance ¹	123.9	25.4	4.5	-	-
Other	2.9	2.7	3.2	11.5	1.9
Total Air	177.4	63.4	46.0	42.1	45.1
Marine Mode					
Marine Atlantic	36.8	46.4	41.6	72.9	70.2
Transfers to ports ²	21.6	22.1	65.7	27.1	70.7
Other ferry and coastal services	31.7	32.2	32.0	33.6	34.2
Marine security					32.8
Other ³	24.5	8.6	5.5	7.9	42.3
Total Marine	114.6	109.2	144.8	141.4	250.3
Rail Mode					
VIA Rail	310.2	255.7	264.2	191.3	169.0
Hopper cars	16.4	16.0	12.9	12.3	12.0
Grade crossings	7.5	7.5	7.5	7.4	7.4
Other	8.3	8.6	8.9	20.1	27.2
Total Rail	342.5	287.8	293.6	231.1	215.7
Highway Modes					
Transition programs ⁴	23.7	37.2	33.7	33.6	29.9
Highway agreements ⁵	69.0	101.4	116.2	205.2	162.7
Infrastructure program	7.4	33.7	45.9	133.1	477.3
Fixed link in					
Prince Edward Island	48.6	49.2	51.4	52.0	53.3
Other ⁶	11.3	13.2	15.8	10.3	17.9
Total Highway Modes	159.9	234.8	263.0	434.2	744.4
Transit Systems⁷					
	2.4	66.3	53.7	29.4	28.4
Grand Total⁸	797.7	763.0	803.4	885.6	1,294.5

Notes: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

Transport-related expenditures by regional development agencies have been added retroactively.

1 Includes air carrier assistance of \$99 million in 2001/02 and a cabin security enhancement program of \$28 million and \$6 million in 2002/03 and 2003/04, respectively.

2 Includes contributions to the Port Divestiture Fund, a payment of \$36 million to the Government of Quebec for the transfer of ferry wharves in 2000/01 and \$64 million for the payment of a loan guarantee to Ridley Terminals in 2003/04.

3 Includes a payment of \$21.4 million to Hamilton Harbour Commission in 2001/02 and a payment of \$35 million to the Toronto Port Authority in 2005/06 for the settlement of a civil litigation.

4 Offset federal programs to the elimination of *Western Grain Transportation Act* programs.

5 Includes \$33 million in 2002/03 and \$78 million in 2003/04 under the Strategic Highways Infrastructure Program.

6 Includes in 2002/03 and 2003/04 the estimated road portion of the Toronto Waterfront Revitalization Project.

7 Spending included previously under Highway Modes.

8 Includes small amounts not classified elsewhere.

F Forecast at January 31, 2006, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Provincial/Territorial Departments of Transportation

DISTRIBUTION OF PROVINCIAL/TERRITORIAL AND LOCAL EXPENDITURE BY PROVINCE¹

In 2004/05, provincial, territorial and local governments spent \$18.9 billion on transportation net of transfers from the federal government. This was a 6.6 per cent increase over 2003/04. Spending by both levels of government is similar in magnitude. Net expenditures by provinces/territories increased by \$1.1 billion (13.4 per cent) to \$9.6 billion, reaching a new peak; while local net expenditures rose by \$26 million (0.3 per cent) to \$9.3 billion, also a new high.

At \$6.6 billion in 2004/05, or 35.1 per cent of the national total, net expenditures on transportation by the provincial and local governments in Ontario were the highest of any province or territory. Next highest was Quebec with \$4.2 billion (22.3 per cent), followed by British Columbia with \$2.8 billion (15.0 per cent) and Alberta with \$2.4 billion (12.8 per cent).

On a per capita basis, the territories spent the most. The Yukon led with \$2,535 per person in 2004/05. Provincially, Alberta and New Brunswick spent the most per capita on transport, more than \$700. The average for all jurisdictions was \$590 per person. Addendum Tables A3-5 and A3-6 give further details.

Over the past five years (2000/2001 to 2004/05), provincial/territorial and local governments have spent an average of 3.1 per cent more per year on transportation. Nova Scotia, Quebec and Alberta all have average increases of more than five per cent.

Federal transfers in 2004/05 were equivalent to 1.9 per cent of transport spending by local and territorial governments. The Northwest Territories was the most reliant on federal transfers, with 27.3 per cent of its transport spending dependent on federal transfers. New Brunswick followed at 6.0 per cent.

Spending on highways and roads is the most important category of transport-related expenditures for all provinces. In 2004/05, it accounted for about 80 per cent of total net spending by provincial/territorial and local governments. Nationally, provincial spending and local spending in this category each accounted for about 40 per cent.

Other modes are significant for some provinces/territories. Marine transportation is important for Newfoundland and Labrador, where it made up nine per cent of total provincial and local government net transport spending in 2004/05. Spending on air transportation is significant for the territories, accounting for 20 per cent of transport spending in the Northwest Territories. Expenditures on transit are important in the most populous provinces: in Ontario they accounted for 18.4 per cent, in Quebec 14.8 per cent and in British Columbia 14.0 per cent.

1 Detailed data are available in the Addendum to this report on Transport Canada's Web site (www.tc.gc.ca).

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. Revenues from cost-recovery initiatives credited to the budgets of federal departments and revenues from other sources credited to the federal government's Consolidated Revenue Fund are both included in this analysis. Revenues collected from transport users include excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees. Table 3-4 highlights government revenues from transport users from 2001/2002 to 2005/06.

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 2001/02 – 2005/06

(Millions of dollars)

	2001/02	2002/03	2003/04	2004/05	2005/06 ^F
Airport revenues	264	319	226	253	298
Aircraft services	34	26	23	31	30
Air Travellers Security Charge	-	421	410	383	340
Marine revenues ¹	70	68	72	74	83
Leases of hopper cars ²	14	15	19	17	15
Other fees and recoveries ³	26	33	34	31	22
Total	408	883	783	799	789
Federal fuel taxes	4,758	4,873	5,081	5,186	N/A
Public and non-transport use ^{4,5}	396	383	400	402	N/A
Road ⁵	4,176	4,300	4,481	4,576	N/A
Other modes ⁵	186	190	200	208	N/A
Provincial/territorial fuel taxes	7,012	7,343	7,688	7,813	N/A
Sales tax equivalent ^{5,6}	784	795	863	961	N/A
Road ⁵	5,981	6,299	6,580	6,584	N/A
Other modes ⁵	247	249	244	267	N/A
Provincial/territorial licences/fees ⁷	2,769	2,911	3,043	3,132	N/A
Total tax revenues from transport users	13,359	13,949	14,549	14,767	N/A
Total tax and fee revenues from transport users	13,767	14,832	15,332	15,557	N/A

Notes: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.

2 Credited to the Consolidated Revenue Fund.

3 Includes air safety fees, other licensing and administrative fees, inter- and intra-departmental transfers for services and various regulatory fees credited to either Transport Canada or the Consolidated Revenue Fund.

4 Estimated fuel taxes from public administrations and mobile users of the public transport system.

5 Estimates by Transport Canada (revised).

6 Estimates based on the sales tax that would have applied to provincial fuel prices.

7 The amounts shown exclude licences and registration fees dedicated to the Société de l'assurance automobile du Québec.

F Forecast at January 31, 2006, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Statistics Canada; provincial/territorial departments of transportation

In 2004/05, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected \$15.6 billion from transport users through fuel taxes and permit and licence fees. This was a 1.5 per cent increase from 2003/04. At \$11.2 billion in 2004/05, road fuel taxes make up the largest component of government tax revenues from transportation. This was a one per cent increase over 2003/04, after increases of over four per cent in each of the two previous years. Other fuel tax revenues rose \$31 million in 2004/05 to \$475 million. Total fuel taxes made up 75 per cent of total revenues by transport users.

In 2005/06, federal government transportation revenues other than fuel taxes are expected to remain basically the same at \$789 million. The main factor behind this is that while airport lease payments are expected to increase by \$46 million, revenues from the Air Travellers Security Charge are expected to fall by \$43 million. Marine fees are expected to increase to \$83 million from \$74 million. Table 3-4 also shows other federal revenues not credited to transport, such as revenues from the leases of hopper cars or the sale of port assets.

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

The following section summarizes consolidated federal expenses, as well as expenditures by provincial/territorial and local governments, netted of transfers received from other levels of government from 2001/2002 to 2005/06. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period.

In 2004/05, total government spending on roads rose 8.0 per cent to \$15.8 billion, accounting for 72 per cent of overall spending on transportation. Road expenditures have risen steadily at an average annual rate of 4.9 per cent for the past five years. Revenues from road users were \$14.3 billion in 2004/05 for net expenditures of \$1.5 billion.

Public funding for transit systems was \$2.7 billion in 2004/05, almost unchanged from 2003/04, and accounted for 12 per cent of all government expenditures on transportation.

In 2004/05, the air mode accounted for \$946 million, or 4.3 per cent of gross government spending on transportation. In the last five years air-related public spending has increased at an average rate of 18 per cent. This increase in spending reflects the new initiatives related to safety and security.

Public spending related to the marine mode increased 10.7 per cent to \$1.2 billion in 2004/05. The share of public spending on transportation in the marine mode is about five per cent.

Public spending on rail transportation fell by 17 per cent to \$287 million in 2004/05 and dropped to 1.3 per cent of gross government spending on transportation. The drop is due to reduced VIA Rail subsidies.

The federal and provincial governments spent \$2.4 billion on the air, marine and rail modes combined in 2004/05. They took in \$1.2 billion in fees and tax revenues from transport users in these modes in the same year.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. This category accounts for about four per cent of government transportation spending.

TABLE 3-5: TRANSPORT EXPENDITURE/REVENUES BY MODE AND LEVEL OF GOVERNMENT, 2001/02 – 2005/06

(Millions of dollars)					
	2001/02	2002/03	2003/04	2004/05	2005/06 ^F
Federal Operating and Maintenance, Capital and Subsidies¹					
Air	474	605	724	852	752
Marine	763	784	833	927	1,041
Rail	363	313	315	255	242
Road	393	456	436	622	433
Transit	2	66	54	29	28
Other/Overhead	316	290	276	280	307
Subtotal	2,312	2,515	2,638	2,966	3,303
Provinces/Territorial/Local²					
Air	81	78	80	94	N/A
Marine	182	205	240	260	N/A
Rail	27	30	31	31	N/A
Road	13,040	13,505	14,164	15,143	N/A
Transit	2,296	2,379	2,678	2,662	N/A
Other/Overhead	442	522	559	728	N/A
Subtotal	16,068	16,720	17,752	18,918	N/A
Total Expenses: All Government Levels					
Air	554	683	804	946	N/A
Marine	945	989	1,072	1,187	N/A
Rail	390	343	347	287	N/A
Road	13,433	13,962	14,600	15,765	N/A
Transit	2,299	2,445	2,732	2,691	N/A
Other/Overhead	758	812	834	1,008	N/A
Subtotal	18,379	19,235	20,390	21,884	N/A
Government Revenues From Transport Users³					
Road users	12,926	13,510	14,106	14,295	N/A
Rail, Air and Marine	837	1,312	1,213	1,246	N/A
Multimodal	4	10	12	16	N/A
Total	13,767	14,832	15,332	15,557	N/A

Note: N/A = Not available. More details are available on Transport Canada's Web site (www.tc.gc.ca).

¹ From tables 3-2 and 3-3.

² Transport Canada, provincial/territorial departments of transportation. Many provinces have moved to unconditional grants to local governments, transportation transfers may therefore be underreported. Net expenses by local governments are netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division; data are on a calendar year basis.

³ From Table 3-4.

^F Forecast at January 31, 2006, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

TRANSPORTATION SAFETY AND SECURITY

4

Canadians' confidence in transportation security in all modes continued to increase.

There were fewer fatalities in the road and marine transportation modes; however, there was an increase in fatalities in aviation and a slight increase in rail.

The number of reported accidents decreased in the road and marine transportation modes, and increased for rail and aviation transportation modes.

Transport Canada promotes the safety and security of Canada's transportation system, which consists of the air, marine, rail and road modes of transportation, and includes the transportation of dangerous goods. The aim of a safe and secure transportation system is to protect the country's citizens from those occurrences that result in the loss of or damage to life, health and property. It also enables the efficient flow of people and goods, protects the environment from pollution that can result from occurrences, and is an essential component for a healthy population, a high quality of life, and a prosperous economy.

Through policy development, rule making, monitoring and enforcement, and outreach activities, Transport Canada supports the safety and security objective. For all modes of transportation, the department establishes and implements legislation, regulations, standards and policies. Its monitoring and enforcement activities include issuing licences, certificates, registrations and permits; monitoring compliance through audits, inspections and surveillance; and taking appropriate enforcement action in instances of non-compliance. In particular, the department has inspectors who monitor the system to make sure the rules are being followed, and, if required, have the means to enforce the policies and rules. Outreach activities make transportation system users and industry aware of the requirements and involve efforts to promote, educate and increase awareness of safety and security issues.

Many different stakeholders share the responsibility for the safety and security of the transportation system. Transport Canada collaborates with other federal departments and agencies whose programs and services may be affected by transportation activities. For example, with respect to promoting aviation security, this responsibility is shared with the Canadian Air Transport Security Authority (CATSA). CATSA is responsible for delivering air transport security services in accordance with Transport Canada regulations and standards.

Transport Canada works with provincial, territorial and municipal governments particularly with respect to the maintenance of the highway system, enforcement of road safety and the co-delivery of the Transportation of Dangerous Goods (TDG) program. Transport Canada also works closely with transportation sector industries, agencies and associations, all of which have a vested interest in transportation infrastructure, the regulatory regime and transportation safety and security.

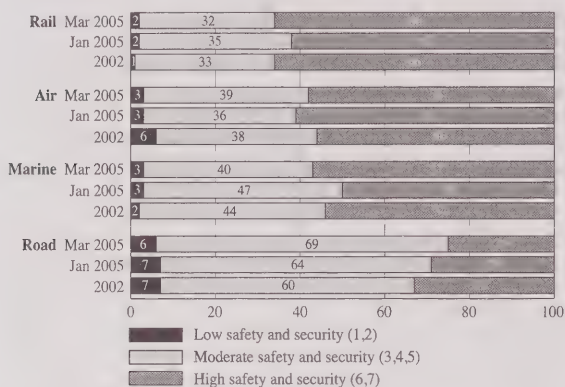
In addition, Transport Canada collaborates with other countries, such as the United States and Mexico, and with other international partners, such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), to harmonize safety and security standards and to share best practices in safety and security systems.

Canada's transportation system is already one of the safest and most secure in the world. Even so, the country continues to work diligently to further improve the system. Transport Canada measures the public confidence in the safety and security of each transportation mode. The data reveal that, in the case of all four transportation modes, at least 95 per cent of those Canadians who have an opinion give either a *moderately* or a *very* safe and secure rating. These most recent available ratings (March 2005) are shown in Figure 4-1.

FIGURE 4-1: PUBLIC'S CONFIDENCE RATING OF THE SAFETY AND SECURITY OF AIR, RAIL, MARINE AND ROAD TRAVEL

"Canada's transportation system includes air, rail, road, and marine travel..."

How would you rate the overall **SAFETY AND SECURITY** of each of the following modes of transportation?"



Source: *Perceptions of Air Travel Safety and Security in Canada: Wave IV, EKOS Research Associates (April 29, 2005)*

Transportation safety is measured by the number of occurrences that result in an accident. In 2005, there were a record low number of accidents in marine. However, there was an increase in accidents for the rail and aviation transportation modes and for those involving the transportation of dangerous goods. The number of fatalities increased in both rail and aviation transportation. The number of fatalities decreased both for marine transportation and for where the transportation of dangerous goods was involved.

The number of road fatalities decreased in 2004 (latest data). Moreover, the number of transportation-related fatalities has remained below the previous five-year averages in aviation, road, and the transportation of dangerous goods. With the exception of a fluctuation in 2004 for rail, the safety performance record observed in the three other transportation modes has contributed toward a long-term downward trend in accidents reported over the past 10 years.

Implementing the Safety Management Systems (SMS) is one of the key evolving strategic directions being undertaken by Transport Canada to further improve on the transportation safety performance over the long term. The SMS is a formal framework for integrating safety performance into day-to-day operations within the transportation industry. Implementation of SMS regulations is well under way in rail; the marine SMS is moving toward increased adoption for operators of Canadian domestic vessels. New SMS regulations for aviation came into effect in May 2005.

In 2005, with respect to transportation security, Transport Canada continued a number of activities to further enhance transportation security, including legislative and regulatory enhancements, programs, and international initiatives. The department also actively contributed to federal government initiatives to enhance security, such as the National Security Policy and the Security and Prosperity Partnership.

Canadians are confident in the security of air travel. This confidence continued to increase in 2005. For example, one half (49 per cent) of those surveyed reported having high confidence in the security of air travel. This confidence has been growing since 2002, when only slightly more than one third (36 per cent) expressed confidence. This is an increase in confidence of 13 percentage points over the last three years. Canadians also believe that there are sufficient security procedures in place to protect them. Even if they do not feel immune to the activities of terrorists, they do, nevertheless, feel confident in the effectiveness of the security measures that have been implemented.

Developments and initiatives concerning the safety and security of Canada's transportation system during 2005 are reviewed in this chapter. It begins with a review by mode of the 2005 safety records and is followed by a discussion and review of transportation security and the related enhancements undertaken in 2005.

TRANSPORTATION SAFETY

This section reports the most recent safety-related statistics for all modes of transportation and for the transportation of dangerous goods. The reports of accidents and incidents made to the Transportation Safety Board (TSB) are one of the principal sources of safety-related occurrence statistics. Accidents are those occurrences that have resulted in the loss of or damage to life, health and property. Incidents are those occurrences that have the potential to result in an accident. It is important to note that the specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (See the TSB Regulations at www.tsb.gc.ca/en/common/acts.asp for details on aviation, marine and rail.) Data on road collisions reported to the police are collected by the provinces and territories under the agreement of the Canadian Council of Motor Transport Administrators and provided to Transport Canada to develop the national casualty collision statistics.

Collecting and processing the high volumes of data for more than 600,000 crash case occurrences annually can take over a year to compile before the statistics are released at the jurisdictional and national levels. Transport Canada is the primary source for the transportation of dangerous goods-related occurrence statistics. (See the Transportation of Dangerous Goods (TDG) Regulations on reporting requirements at: www.tc.gc.ca/tdg/clear/part8.htm.) Safety-related occurrence statistics are indicators of the transportation system's safety performance and help focus efforts on initiatives and activities that have high safety benefits. At the same time, efforts continue to better align and link safety-related data with Transport Canada's key safety initiatives. In this year's report, these data alignment efforts are reflected for aviation where the TSB source data aligns with the Canadian Aviation Regulations for the *Flight 2005* strategic plan. (For more information, see Aviation Safety in this chapter.)

In 2005, the number of aviation accidents rose 1.6 per cent over 2004. Marine accidents were down 8.2 per cent over 2004. Reported rail accidents increased, however, by 9.8 per cent. The latest available statistics for road casualty collisions (2004) show a decrease of 3.6 per cent over 2003. Reportable accidents involving the transportation of dangerous goods increased from 370 in 2004 to 412 in 2005.

The safety performance of the transportation system can also be measured by the number of fatalities. In 2005, there were no fatalities caused by dangerous goods in a transport accident and there were fewer fatalities in the marine transportation mode. However, there was an increase in fatalities in both the aviation and rail modes. From 2003 to 2004 (the most recent statistics), there was a decrease of 1.3 per cent in road-related fatalities. Table 4-1 and the more detailed Table A4-1 in the Addendum summarize the modal safety record, including the transportation of dangerous goods.

To ensure the year-over-year analysis and modal comparisons are complete, both the long-term trends and specifics of each mode, including level of activity and the changes in exposure to risk, should be taken into account. That said, overall, accident rates for air in 2005 increased slightly over 2004, while remaining below the previous five-year average. The accident rate for marine, (available only for commercial vessels of over 15 gross tons) has declined over both the 2004 rate and the previous five-year average. The rate for road accidents decreased in 2004 and was once again the lowest for the past 10 years.

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE

	<i>Aviation</i> ¹	<i>Marine</i> ²	<i>Rail</i> ³	<i>Road</i> ⁴	<i>TDG</i> ⁵
Accidents					
2005	245	405	1,248	N/A	412
2004	241	441	1,138	151,300	370
2003	-	-	-	156,904	-
Five-year average (2000 – 2004)	277.4	446.6	1,055.40	156,631	415
Fatalities					
2005	47	18	103	N/A	0
2004	34	27	101	2,730	1
2003	-	-	-	2,766	-
Five-year average (2000 – 2004)	50	25	92.2	2,878	1

Note: Preliminary data for 2005.

1 Canadian-registered aircraft, other than ultralights, based on the Canadian Aviation Regulations

2 Accidents involving Canadian-registered vessels.

3 Railways under federal jurisdiction.

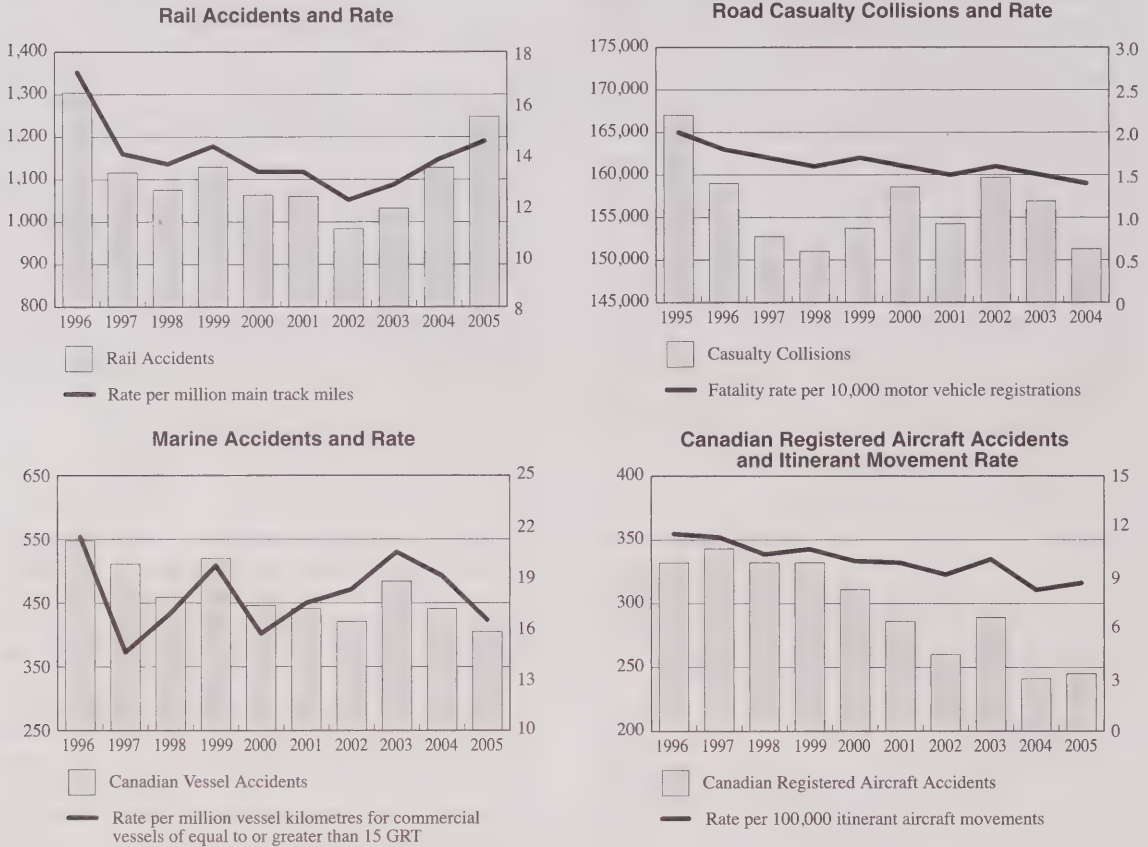
4 Road statistics relate to 2004 (most recent road safety statistics) and to the 1999 – 2003 five-year averages. Road accidents are casualty collisions, which exclude collisions in which only property is damaged.

5 Accidents where transportation of dangerous goods were involved. Fatality data relate to only those deaths caused by the dangerous goods.

Source: Transportation Safety Board, Transport Canada and Statistics Canada

The 2005 rate for rail accidents was up over recent years, but remained below the rates of the 1990s. The rates also capture changes in the levels of activity measures; as the level of activity increases, so does the exposure to risk. Both have contributed to the changes in the number of accidents. Figure 4-2 shows the 10-year trend for the four modes. The trend, despite observed fluctuations from one year to another, is generally downward in terms of both number of accidents and accident rates per activity level. It is important to note that, because the activity measure is particular to each mode, these rates are only a basis for interpreting the occurrence statistics within each mode and not for comparing across modes. In addition, the available activity measure (denominator), representing to a certain extent all or key operations of modal activities, may have its own set of data limitations. For more details, including information on limitations of data, see Table A4-1 in the Addendum.

FIGURE 4-2: ACCIDENTS AND ACCIDENT RATES PER ACTIVITY MEASURE FOR RAIL, ROAD, MARINE AND AVIATION



Source: Transportation Safety Board, Transport Canada and Statistics Canada

RAIL SAFETY

The number of rail accidents increased from 1,138 in 2004 to 1,249 in 2005, 18.4 per cent above the previous five-year average (1999-2003) of 1,055 accidents. An accident rate of 13.0 per million train-miles (includes main track train-miles and yard switching-miles) was observed for the year, up from 12.5 in 2004 and the previous five-year average of 11.6.

The increase in 2005 was attributed mainly to a greater number of non-main track derailments (538 in 2005 versus 450 in 2004) and crossing collisions (270 in 2005 versus 237 in 2004). Non-main track accidents (which accounted for 64.7 per cent of the 2005 total), involving either a derailment or collision, are, for the most part, minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. In 2005, there were 103 fatalities, on par with the 101 fatalities in 2004 and an 11.7 per cent increase over

the previous five-year average of 92.2. There were 77 serious injuries in 2005, a decrease over the 91 serious injuries reported in 2004.

For more details, including a provincial breakdown of accidents, fatalities and serious injuries, as reported to the Transportation Safety Board, and involving railways under federal jurisdiction, see tables A4-2 to A4-4 in the Addendum.

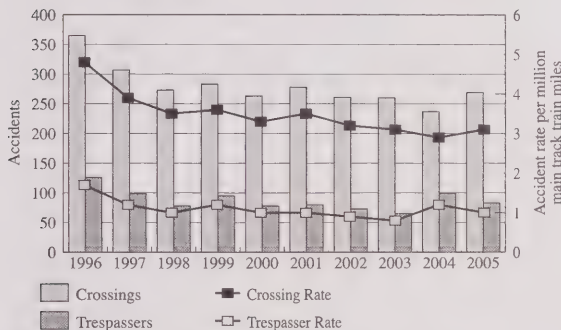
Direction 2006 Initiative — In 1996, Transport Canada and its partners, the Railway Association of Canada, provincial and municipal governments, railway companies and their unions, law enforcement agencies, and other safety organizations, joined forces to create Direction 2006. The goal of the program is to promote and implement initiatives that will change human behaviour at grade crossings and with respect to trespassing on railway property. Through eight key result areas — education, communications, enforcement, research,

resources, outreach, legislative, and performance measurement — the objective is to reduce railway grade crossing collisions and trespassing incidents by 50 per cent by 2006. High proportions of crossing and trespasser accidents are fatal or result in serious injury and they continue to account for approximately 90 per cent of total fatal and serious injury rail accidents.

In 2005, crossing accidents increased 14 per cent to 270, from 237 in 2004, and were above the five-year average of 257.8. Fatalities related to crossing accidents also increased, from 25 in 2004 to 38 in 2005. There were 82 trespasser accidents in 2005, a 17 per cent decline over the 2004 total of 99, although on par with the 2000 – 2004 five-year average of 79.2. Fatalities from trespasser accidents decreased to 63 in 2005 from 68 in 2004, but were up from the 54.6 for the previous five-year average. Figure 4-3 shows the trends in crossing and trespasser accidents from 1996 to 2005.

For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.

FIGURE 4-3: CROSSING AND TRESPASSER ACCIDENTS, 1996 – 2005



Source: Transport Canada, based on Transportation Safety Board data

Grade Crossing Improvement Program — Through the Grade Crossing Improvement Program, Transport Canada funds up to 80 per cent of safety enhancement costs at approximately 80 to 100 sites across the country. This represents an annual investment of up to \$7.5 million. More than \$100 million has been invested in this program over the past 15 years. In 2005, crossing accidents at public automated crossings increased from 117 in 2004 to 161 in 2005 and from 65 in 2004 to 73 in 2005 at public passive crossings. However, accidents at private crossings decreased from 51 in 2004 to 32 in 2005.

Safety Management Systems (SMS) — In 2005, Transport Canada continued to work with the railway industry to adopt a comprehensive systematic approach to railway safety through the conduct of Railway Safety

Management System (RSMS) regulatory audits. The RSMS Regulations, which came into force on March 31, 2001, require all federally regulated railway companies to document, implement and maintain a RSMS with mandatory components as outlined in the regulations.

The department made significant progress in evaluating the implementation and effectiveness of the railway safety management systems of federally regulated railways. The initial audit cycle, comprising audits of all federally regulated railways, was 90 per cent completed by the end of 2005.

The audits showed that railways have made significant steps toward adopting more formalized approaches to managing safety. However, improvements are necessary to integrate the SMS approach within all operating levels of the railways. The department will continue to move toward a more focussed, issue-driven audit methodology, with a view to further enhancing industry safety culture.

ROAD SAFETY

Canada's road safety record continues to improve decade after decade. In 2004 (most recent statistics), there was a 3.6 per cent decrease in casualty collisions from 2003. There were 2,730 road-related fatalities in 2004, down from 2,766 in 2003, a 1.3 per cent decrease. In 2004, there was a 4.5 per cent decrease in road-related injuries, or 10,108 fewer injuries in 2004 than in 2003. Addendum Table A4-5 shows annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries.

The annual changes may be attributable in part to changes in vehicular traffic, such as the number of vehicle registrations, which were up 1.1 per cent in 2004 over 2003, and vehicle-kilometres travelled, which were down 2.3 per cent. The 2004 casualty collision rate of 48.5 per 100 million vehicle-kilometres travelled was a slight decrease over the 2003 rate of 50.2. The longer-term downward trend in fatalities and total injuries (621 fewer fatalities in 2004 than the 3,351 in 1995 and 29,588 fewer injuries in 2004 than in 1995) has helped reduce the estimated annual social cost to Canadians of up to \$25 billion. These long-term trends are confirmed by a rate of 1.4 fatalities per 10,000 motor vehicle registrations in 2004 compared with 2.0 in 1995 (or with 2.4 for the 1985 – 1994 10-year average). Continuing the trend of decreased rates, the 2004 rates became the lowest for the past 10 years and since the 1950s. Data by provinces/territories are shown in Addendum Table A4-6.

Road Safety Vision 2010 (RSV 2010) — Introduced by the federal, provincial and territorial governments and the Canadian Council of Motor Transport Administrators, the strategic objectives of this initiative are to raise awareness of road safety issues, improve collaboration and cooperation among safety agencies, strengthen enforcement, and improve national road safety data collection and quality. Its national target is a 30 per cent decrease in the average number of road users killed or seriously injured during the 2008 – 2010 period over comparable 1996 – 2001 figures. In 2004, there were 8.0 per cent fewer fatalities and 3.9 per cent fewer serious injuries as compared with the 1996 – 2001 baseline of the RSV 2010. For more information on targets and sub-target areas, see *Road Safety Vision 2010, 2002 Annual Report* at www.tc.gc.ca/roadsafety/vision/menu.htm.

Seat belts — Increasing seat belt wearing rates among Canadians to 95 per cent or higher is a crucial RSV 2010 sub-target. Thousands of lives are saved every year by seat belts. In 2004, 36.0 per cent of driver and 35.3 per cent of passenger fatalities were victims who were not wearing seat belts. (See Addendum Table A4-7.) And the percentage for serious injuries among seat belt wearers was much lower (14.6 for drivers and 21.2 per cent for passengers). This indicates that there is a relatively higher risk of fatality for those not wearing seat belts in serious road crashes. For more details, see <http://www.tc.gc.ca/roadsafety/tp/tp3322/2004/menu.htm>. In September 2005, Transport Canada conducted an observational survey of seat belt use in urban communities during the daytime across Canada. In September 2004, a similar survey was conducted in rural communities. These surveys showed that the seat belt wearing rate in rural areas (86.9 per cent) was lower than the rate in urban communities (91.1 per cent). The rate was much lower among occupants of light trucks (about 85 per cent) than occupants of passenger cars (about 92 per cent), and the rate was lower by approximately two to six per cent for male drivers than for female drivers, and similarly, by age group, among those drivers aged 25 and under. For more information on these surveys visit: <http://www.tc.gc.ca/roadsafety/stats/menu.htm>, as well as Road Safety's main menu for related vehicle restraints and safety studies and programs (e.g., air bags, booster seats for children, child seats on school buses).

Impaired drivers — The percentage of fatally injured drivers who were tested and found with an alcohol concentration rate in their blood over the legal limit of 80 mg% has declined steadily from approximately 40 per cent in the late 1980s to approximately 30 per cent in recent years (32 per cent in 2003). A similar trend can be seen in police reported charges for impaired driving offences (for adults over 18 years of age). The number

dropped from over 111,000 in the early 1990s to 62,977 in 2004 (most recent data). It is unclear what percentage of these reductions is a result of greater public awareness, tougher penalties or changes in traffic enforcement levels and/or procedures. Addendum Table A4-8 shows this downward trend. The observation of the role of drugs, such as cannabis, as a cause of collision dates back many years, however, much less is known about the impact of this drug on collisions. Studies revealing that cannabinoids are the drugs most commonly found (after alcohol) in drivers who have been injured or killed in motor vehicle collisions, have increased concern both nationally and internationally. Risks related to motor vehicle collisions increase in cases where both alcohol and cannabis are being used by drivers. For more information, please see "Impacts of cannabis on driving: An analysis of current evidence with an emphasis on Canadian data" at www.tc.gc.ca/roadsafety/tp/tp14179/menu.htm.

Addendum Table A4-10 shows that motor vehicle drivers accounted for about half of the 2004 fatalities (2,725), while passengers accounted for about a quarter (24.2 per cent). Pedestrian fatalities, accounting for 13.4 per cent, decreased from 379 fatalities in 2003 to 366 in 2004. A recent study indicates that pedestrian fatalities have decreased by 24.1 per cent over the 1992 – 2001 10-year period. The 10-year average for this period was 416. For details, visit www.tc.gc.ca/roadsafety/tp2436/rs200401/menu.htm.

As Addendum Table A4-11 shows, of the vehicles involved in fatal collisions between 2000 and 2004, after automobiles, pickup trucks and larger trucks, were motorcycles (at a distant fourth place, accounting for about five per cent), bicycles (in fifth place), and all buses (at sixth place with about one per cent of the total). For more statistics on road safety system performance, visit www.tc.gc.ca/roadsafety/stats/menu.htm.

Commercial vehicles — Another key RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles (i.e., heavy trucks and buses). Commercial vehicle drivers accounted for approximately 3.5 per cent of total licensed drivers between 1999 and 2004 (for details, visit <http://www.tc.gc.ca/roadsafety/tp/tp3322/2004/page12.htm>). However, when compared with passenger vehicles, they generally account for a much higher proportion of vehicle-kilometres travelled. From 1999 to 2004, collisions involving commercial vehicles accounted for approximately eight per cent of all road collisions and roughly 20 per cent of all road fatalities. In 2004, there were 581 fatalities resulting from collisions involving commercial vehicles compared to 578 in 2003. This figure is identical to the 581 fatalities in 2002. (For details, see Addendum tables A4-9A and A4-9B).

Fatigue is recognized as a factor in transportation accidents. Consequently, a key initiative in recent years has been to revise and modernize the hours of service regulations (under the consensus-based National Safety Code Standard #9), allowing trucking companies to better manage the fatigue factor in their operations. In December 2004, government regulators and key players in the Canadian trucking and bus industries reached a consensus on safety rules for extra-provincial commercial vehicle operations. The Commercial Vehicle Drivers Hours of Service Regulations, which were published in the *Canada Gazette* Part II on November 16, 2005, will come into effect on January 1, 2007. The regulations are available at: <http://canadagazette.gc.ca/partII/index-e.html>. Transport Canada has an ongoing research program on human performance and fatigue management. In 2004, a prototype fatigue management program for commercial drivers was developed to train drivers, dispatchers and company managers about ways to avoid fatigue and to get the best possible rest at home or on the road. The program will undergo field trials in 2006 under a 2003 joint research agreement between Transport Canada and Canadian provincial and U.S. authorities. For information on human performance research, see <http://tcinfo/tcd/projects/hfactors/menu.htm>.

Transport Canada also implemented legislative and regulatory changes on January 1, 2006, that establish a common approach to monitoring and measuring truck and bus safety performance across Canada. The new safety rating system, which is enforced by the provinces and territories, addresses driver, vehicle and motor carrier performance, including maintenance practices and the collision record. More information can be found on the Transport Canada Web site at: www.tc.gc.ca.

Transport Canada also instituted a "Share the Road" Web site in December 2005 to assist the public in sharing the road with commercial vehicles, see <http://www.tc.gc.ca/roadsafety/ShareTheRoad/menu.htm>. The Web site provides important safety tips for both commercial and non-commercial vehicle drivers.

MARINE SAFETY

In 2005, there were 405 marine accidents involving Canadian-registered vessels. This was a record low and represented an eight per cent decrease from the 2004 total of 441 and was nine per cent lower than the previous five-year average.

Marine accident statistics contain two components, shipping accidents and accidents aboard ships. Historically, the majority of marine accidents are shipping

accidents and 2005 was no exception, with 365 shipping accidents or 90 per cent of the total. However, this was a decrease of eight per cent over 2004 and nine per cent over the previous five-year average. In 2005, there were 12 fatalities from shipping accidents, down from 21 in 2004 and below the five-year average of 15.4. There were also 21 injuries resulting from these accidents. This total was well below both the 2004 figure when there were 37 injuries and the five-year average of 30.8. There were 22 vessels confirmed lost due to a shipping accident in 2005, down 36 per cent from the previous five-year average of 34.4. Of the 403 Canadian vessels involved in a shipping accident, which includes those where more than one vessel was involved (e.g., collision between vessels), fishing vessels represented the largest proportion with 55 per cent, while commercial vessels followed with 34 per cent.

Accidents aboard ship made up the remainder of the Canadian vessel accidents, falling to 40 in 2005 from 46 in 2004 and from the five-year average of 47.2. There were six fatalities that resulted from these accidents, equivalent to the 2004 total but down from the five-year average of 9.6. The 37 injuries resulting from the accidents were also below the five-year average of 42.6.

For more details on marine accidents, including a provincial breakdown of occurrences, which take into account foreign vessels inside Canadian waters (not included in the above figures but reported to the Transportation Safety Board), see Addendum tables A4-12 and A4-13.

There are approximately 27,593 registered and 9,824 licensed vessels in Canada (excluding recreational) for a total of 37,417. The majority of these vessels, 61 per cent, are fishing vessels. Of the 14,438 commercial vessels, 71 per cent measure less than 15 gross tons. For details on registered vessels, see: <http://www.tc.gc.ca/ShipRegistry/menu.asp?lang=e>.

One of the key commitments in Marine Safety's Strategic Plan 2003 – 2010 is to achieve certain safety targets by 2010, based on the 1998 – 2002 five-year averages for Canadian and foreign vessels. These safety targets are focussed on the number of fatalities (a 20 per cent reduction to 33.8), injuries (a 30 per cent reduction to 80.2), and the Canadian- and foreign-flag commercial accident rates (a 20 per cent reduction to 3.8 and 2.0, respectively). Early progress against the safety goals shows that the fatality reduction target was met 100 per cent in 2005, while the injury target reached 96 per cent of the goal. For more information on the plan and safety targets, visit www.tc.gc.ca/MarineSafety/tp13111/menu.htm.

Small commercial vessels — In 2005, there were 47 small vessels involved in shipping accidents (excluding fishing), making up 12 per cent of the national total for all vessels. Of these, 20 were engaged in passenger/charter activities. For more details, see Addendum Table A4-14. Canadian small vessels engaged in commercial fishing activities accounted for 54 per cent of total vessels involved in shipping accidents in 2005. Over the years, these vessels have consistently accounted for the highest proportion of the total vessels involved in shipping accidents. However, as shown in Addendum Table A4-15, accidents involving these vessels have declined considerably in the last decade. In 2005, the small vessel regulations were amended to incorporate construction standards and stability requirements for all new vessels in this class. In addition, a decal program was rolled out across the country to graphically indicate the small passenger vessels participating in the inspection program. In addition, the Canadian Marine Advisory Council (CMAC) Standing Committee on Fishing Vessel Safety, with government and industry representation, continued to address regulatory issues and operator certification and training.

International — As a member of the International Maritime Organization (IMO), Canada is required to report casualties for large commercial vessels. In 2005, there were no “very serious” casualties involving a Canadian vessel. There was one “serious” grounding casualty, and two “less serious” casualties (a collision and a grounding) for Canadian vessels. Foreign-flag vessel involvement in marine accidents in Canadian waters rose to 80 in 2005 from 58 in 2004, but remained comparable to the five-year average (77.6). In 2005, casualties resulting from accidents on foreign-flag vessels included one fatality and four injuries. Canada is a signatory to two Memoranda of Understanding (MOU) on Port State Control. In 2005, Canada continued to meet its obligations under the MOUs, inspecting 1,277 foreign-flag vessels. Improved targeting and special inspection programs for bulk carriers and tankers have helped improve the safety of foreign ships entering Canadian ports, and trends show that detentions have decreased from five years ago. Marine Safety publishes an annual report on the Port State Control Program that provides comprehensive data on inspections. Further details on the annual reports can be found at <http://www.tc.gc.ca/MarineSafety/Ships-and-operations-standards/Inspection/Port-State-Control/Annual-Reports/Menu.htm>.

Marine Transportation Safety Management Systems — These systems have been in place since 1998 when they were implemented on a worldwide basis for tankers, bulk carriers and passenger ships in international trade. In 2002, these requirements were extended to almost all vessels trading internationally and are implemented through the Safety Management Regulations. To date, close to 60 Canadian vessels have obtained the required statutory certification issued by classification societies on behalf of Transport Canada. Through a well established monitoring program, Transport Canada directly monitored eight of the audits carried out by these authorized organizations and reviewed 20 additional audit reports in 2005. Transport Canada continues to support the voluntary adoption of Safety Management Systems by vessels operating in Canadian waters and is reviewing the feasibility of implementing a Safety Management System for operators of Canadian domestic vessels (including small passenger vessels).

Recreational boating safety — Preliminary figures for 2005, indicate there were approximately 145 recreational vessel fatalities. This is below the five-year average of 170. Discussions were initiated with Service Canada to modernize the recreational vessel licence system. Starting in 2006, recreational vessel licences will be issued from over 300 Service Canada centres across the country and the data recorded in an electronic database that will be accessible to rescue organizations. It should be noted that there are approximately eight million recreational boaters in any given year. The Red Cross and the Coast Guard Search and Rescue Group maintain comprehensive information on accidents and fatalities relating to pleasure craft at www.redcross.ca and www.ccg-gcc.gc.ca/sar/main. Further details on the above initiatives and other safety regimes under the Marine Safety Program can be found at <http://www.tc.gc.ca/marinesafety/menu.htm>.

AVIATION SAFETY

Preliminary figures for 2005 show that Canadian-registered aircraft were involved in 245 accidents, slightly more than the 241 accidents in 2004. However, this number is still well below the previous five-year average of 277.4. The decline is largely attributable to a reduction of flight training accidents.

The number of aircraft operating commercially involved in accidents (107 in 2005) accounted for 43.7 per cent of the total Canadian-registered aircraft accidents, while private/recreational aviation accounted for 138 aircraft involved in accidents. Historically, airlines and commuter

aircraft account for a small portion of these accidents. In 2005, one Canadian-registered airliner was involved in an accident and it did not result in fatalities. There were five commuter operations accidents, which was below the 2000 – 2004 five-year average of 6.8. One fatal accident involving commuter operations occurred in 2005 and resulted in two fatalities. Approximately half (51.4 per cent) of the commercial aviation operations accidents in 2005 involved air taxis. This was consistent with the previous five years. At 55 accidents, the 2005 figure was on par with the 56 accidents in 2004 and the previous five-year average of 53.8. In 2005, of the 55 accidents involving aircraft of this category, seven (12.7 per cent) were fatal accidents, causing 10 fatalities. There was a major increase in aerial work accidents from 17 accidents in 2004 to 31 in 2005, which accounted for 28.9 per cent of all 2005 commercial aviation operations accidents. However, the 2005 figure was on par with the previous five-year average of 35.8. Six of the aerial work accidents were fatal accidents and caused 11 fatalities.

Recreational aviation is by far the largest contributor to the number of Canadian-registered aircraft accidents, accounting for 56.3 per cent of the 2005 total and 52.6 per cent for the 2000 – 2004 five-year average. In 2005, 138 recreational aircraft (excluding 31 basic and advanced ultra-lights) were involved in accidents, in line with the 2004 figure of 140. Of the 2005 total, 122 (88.4 per cent) involved aeroplanes and 11 of these (nine per cent) were fatal, a slight decrease over the 2000 – 2004 five-year average (13 fatalities, 128.6 aeroplanes involved).

The number of reportable incidents reported to the Transportation Safety Board involving either a Canadian- or foreign-registered aircraft decreased in 2005 to 822 from 906 in 2004, and remained slightly below the 2000 – 2004 average of 836.6. At 27.3 per cent, Declared Emergencies accounted for the highest percentage among the categories of incidents. The 2005 figure (224) was considerably lower than 2004 (276) and the previous five-year average (258.7). For more details on aviation incidents, please see Addendum Table A4-17.

The source of the data is Transport Canada's Flight 2005 database, data that is extracted from the Transportation Safety Board of Canada (TSB) database and then aligned with the Canadian Aviation Regulations (CARs) and toward the Flight 2005 safety targets. Addendum Table A4-16 provides more details on these occurrences and A4-17 further summarizes occurrences as they were reported to the TSB. Addendum Table A4-18 provides more detail on accident rates, and Addendum Table A4-19 provides a breakdown by province of aviation accidents, fatal accidents and fatalities.

Civil Aviation continues a strong partnership approach with the aviation community and the Canadian public that contributes to the achievement of the safety targets identified in *Flight 2005 — A Civil Aviation Safety Framework for Canada*. Preliminary information shows the 2005 accident rate as 6.4 per cent compared with 6.3 per cent in 2004, below the five-year average of 7.2 per cent. On the public confidence side, the March 2005 edition of the Perception of Air Travel & Security survey yielded an overall confidence rating of 98 per cent, which is consistent with the 2002 and 2004 findings. Over two thirds of Canadians — or 70 per cent — feel highly confident in flight safety in Canada, up three percentage points over 2004 and 10 percentage points from 2002.

Flight 2005 represents a new way to manage safety risks in civil aviation and introduced the concept of safety management systems (SMS). At the most fundamental level, the aim is to improve safety through proactive management rather than reactive compliance with regulatory requirements. The requirement for an SMS is overarching and is in addition to the current regulatory framework. It will permit industry to meet the safety performance requirements in the most efficient and effective manner. Holders of Transport Canada operation certificates will be required to implement an SMS. The implementation date for various parts of the *Canadian Aviation Regulations* will vary based on the progress of the Notice of Proposed Amendments through the regulatory system. The expected result of this initiative is the improvement of safety practices and fostering stronger safety cultures within the civil aviation industry. For more information on Flight 2005, visit <http://www.tc.gc.ca/civilaviation/menu.htm>

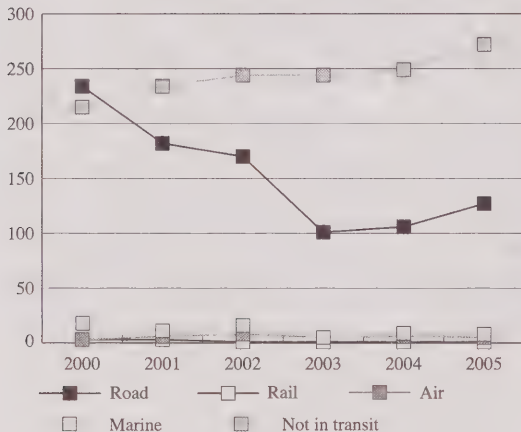
Canada's aviation industry has made tremendous progress in reducing accidents and gaining public trust. To continue this improvement, the industry and its stakeholders are working together on new and innovative approaches. Smart regulations, imbedded safety cultures and effective safety management systems are the way of the future — a future where industry operates at the maximum level of delegation possible with the flexibility to meet safety requirements in the most cost-efficient manner. This means that the regulatory framework must be increasingly performance-based to permit the implementation of systematic approaches to provide continuous improvement in safety performance.

Flight 2010 articulates civil aviation's direction for 2006 to 2010 and outlines goals and objectives in the context of future challenges. The plan describes how the program will achieve the department's two key results, which are unchanged from Flight 2005.

TRANSPORTATION OF DANGEROUS GOODS

There were 412 reportable accidents involving the transportation of dangerous goods in 2005 up from 370 in 2004. However, few accidents involving dangerous goods are actually caused by the goods themselves. Figure 4-4 shows that in recent years most reportable accidents involving dangerous goods did not occur during transport, but rather during the loading or unloading phase at transportation facilities. The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2005, seven fatalities and 41 injuries resulted from accidents involving dangerous goods. Of these, six injuries and no fatalities resulted from the dangerous goods themselves.

FIGURE 4-4: TDG REPORTABLE ACCIDENTS BY MODE AND AT TRANSPORTATION FACILITIES, 2000 – 2005



Source: Transport Canada, Dangerous Goods Accident Information System

Every year in Canada, there are approximately 30 million shipments of dangerous goods that are subject to the TDG Regulations. Almost all (99.99 per cent) arrive safely at their destinations. As Figure 4-4 shows, among the four modes of transport, most reportable accidents (91 per cent) occur on road. It is important to note, however, that 93 per cent of dangerous goods are shipped using road transportation. When tonnage is used as the unit of measurement of dangerous goods transported in Canada, more than 46 per cent of the volume is transported by road while 39 per cent is transported by rail. The TDG program does not cover dangerous goods transported in bulk on ships or by pipeline. For more information on TDG exposure data contact provencherm@tc.gc.ca. For details on the number of reportable accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-20A to A4-20C.

Review of the TDG Act — In 2005, an analysis of the issues, alternatives and solutions was concluded. Amendments to the Act are expected to be proposed in the fall of 2006.

Tank car thermal protection integrity — As the final chapter in the Tank Car Thermal Protection Integrity project, Transport Canada, along with the U.S. Department of Transportation (Federal Railroad Administration) and railway and tank car industries, agreed to undertake full-size tank car fire tests. The performance of rail tank cars filled with propane in a fully engulfing fire will result in a realistic set of defect assessment criteria for use by Transport Canada inspectors.

Highway tank trailer vent and burn — Transport Canada undertook a vent and burn procedure on a highway tank containing propane. For further information on the vent and burn project refer to the article in the Transport Dangerous Goods Newsletter, Winter 2005-2006 edition, at: www.tc.gc.ca/tdg/newsletter/menu.htm.

The National TDG Program — The program includes the development of standards and regulations, inspection and enforcement policies, tools for emergency response support and the manufacture, use and testing of standardized means of containment to promote public safety in the transportation of dangerous goods in Canada. In 2005, Transport Canada offered training sessions throughout the country on the TDG Regulations to federal, provincial and territorial inspectors. Transport Canada also approved facilities that manufacture or maintain means of containment as required in the standards. New means of containment standards for transportable gas cylinders and tank trucks and portable tanks were adopted in the TDG Regulations. When compliance with the *Transportation of Dangerous Goods Act* may be difficult (e.g., the introduction of new technologies) the Act provides the option to apply for a "Permit for Equivalent Level of Safety." Applicants must demonstrate that their proposed activity, although not in compliance with the prescribed requirements, will be conducted in a manner that will provide a level of safety at least equivalent to the prescribed requirements. In 2005, Transport Canada received 1,892 applications and rendered 1,749 decisions.

International harmonization — Transport Canada's goal to harmonize the regulatory requirements across jurisdictions remains an important objective. In 2005, TDG led the United Nations Sub-committee of Experts on the Transportation of Dangerous Goods (UNSCETDG) in reviewing testing requirements for intermediate bulk containers (IBCs) which resulted in the adoption of some revisions to the Model Regulations that will enhance

safety by tightening or, where necessary, clarifying the requirements for testing IBCs. These revisions will be adopted by IMO and possibly by ICAO and other international regulatory bodies and by national authorities thus enhancing international and domestic harmonization of requirements. This initiative is also a Smart Regulations initiative. Amendment 4 to the TDG Regulations adopted requirements that harmonized the regulations with international recommendations, modal requirements and U.S. requirements. Amendment 6, which proposes to further harmonize the TDG Regulations, was distributed for informal comment.

Emergency Response Guidebook — The Canadian Transport Emergency Centre (CANUTEC) assists personnel in handling dangerous goods emergencies 24 hours a day, seven days a week. The Emergency Response Guidebook 2004 that was distributed to fire departments, police departments and ambulance services is available as a free downloadable database in three languages. For more information visit www.CANUTEC.gc.ca.

TRANSPORTATION SECURITY

In 2005, Transport Canada continued to strengthen Canada's transportation security regime, in collaboration with other federal government departments, other countries and international organizations, labour organizations, industry and other stakeholders.

Transport Canada continued to work toward the objectives set out in the federal government's National Security Policy, of which transportation security is a key component. In 2005, Transport Canada launched the development of a transportation security strategy. This strategy will take stock of recent developments and accomplishments in transportation security and identify future priorities across all modes of transportation by assessing the current and future threat and risk environment. Over the past year, Transport Canada has worked closely with a wide number of partners on this initiative, including other federal departments and agencies, provinces and territories, the transportation industry, labour groups, international partners and academia.

In 2005, the Security and Prosperity Partnership of North America (SPP) was signed by the leaders of Canada, the U.S. and Mexico. This trilateral agreement establishes a common approach to protect North America from external threats, prevent and respond to threats within North America, and further streamline the secure and efficient movement of legitimate, low-risk traffic

across shared borders. Transportation security is a key part of the Security and Prosperity Partnership, and the department is leading and participating in a number of initiatives to meet the objectives of the SPP.

AVIATION SECURITY

PERCEPTIONS OF AIR TRAVEL SECURITY

The public's confidence in aviation security continued to rise in 2005 (see Table 4-2). Canadians are confident in the security of air travel, and since 2002, this confidence has grown. Canadians believe that there are sufficient security procedures in place to protect them. Even if they do not feel immune to the activities of terrorists, they do, nevertheless, feel confident in the effectiveness of those security measures that have been implemented.

TABLE 4-2: PUBLIC PERCEPTIONS OF AVIATION SECURITY

- In 2005, one half (49 per cent) of respondents reported having high confidence in the security of air travel, compared with only slightly more than one third (36 per cent) in 2002. This represents an increase in confidence of 13 percentage points over the last three years.
- Three quarters (76 per cent) of Canadians agreed with the statement "Even if I can't see them, I am confident there are sufficient security procedures in place to protect air travellers." This represents a 10-point gain since March 2004.
- A clear majority of Canadians (62 per cent) believe that the Canadian authorities are well informed about potential threats to air security.
- More than 90 per cent of Canadians rate both passenger and luggage screening as either *effective* or *moderately effective*.
- The proportion of respondents finding the screening procedures at airports *very thorough* continued to rise from 34 per cent in 2002 to 51 per cent in 2005.
- Two thirds of respondents (66 per cent) expressed *high satisfaction* in terms of their overall sense of security at the airport.
- Generally speaking, half of Canadians (51 per cent) are willing to endure a lengthy wait (15 minutes or more) and a plurality is still willing to wait "as long as it takes."

Source: *Perceptions of Air Travel Safety and Security in Canada: Wave IV*, EKOS Research Associates (April 29, 2005)

AVIATION SECURITY INITIATIVES

In 2005, Transport Canada continued to implement a number of aviation security initiatives, in collaboration with other federal government departments, other countries and international organizations, industry stakeholders and labour organizations.

Key aviation security initiatives in 2005 include:

- legislative and regulatory and enhancements;
- programs such the Aviation Transportation Security Clearance Program; and
- international initiatives.

In addition to these activities, the Minister of Transport announced the appointment of an advisory panel review of the *Canadian Air Transport Security Authority (CATSA) Act*. The Act came into force on April 1, 2002. It requires that the Minister of Transport complete a review of the provisions and operation of the legislation during its fifth year and report to Parliament on the results. This expert panel will consult with stakeholders across the country in order to identify possible changes and enhancements to the *Canadian Air Transport Security Authority Act*.

LEGISLATIVE AND REGULATORY ENHANCEMENTS

To augment the rigorous security standards already in place, Transport Canada amended and introduced security regulations in 2005.

AVIATION TRANSPORTATION SECURITY CLEARANCE PROGRAM

To reduce the risk of unauthorized persons entering restricted areas of an airport, in 2005, Transport Canada continued to implement the Aviation Transportation Security Clearance Program. Using the Transport Canada Automated Fingerprint Identification System (TCAFIS), the program modernizes and speeds up processing times for aviation transportation security clearances, making airport security more effective and efficient.

In 2005, Transport Canada processed about 40,000 applications for security clearances.

INTERNATIONAL INITIATIVES

In 2005, Transport Canada continued to work with such international agencies as the G8, the International Civil Aviation Organization (ICAO), the European Civil Aviation Conference (ECAC), the U.S. Department of Homeland Security and the U.S. Department of Transportation.

Key international initiatives included:

- The Secure and Facilitated Travel Initiative (SAFTI). Canada and other G8 members evaluated vulnerability assessment methodologies to ensure the safe and efficient movement of passengers and cargo, which would benefit international commerce while enhancing security.
- The ICAO's Universal Security Audit Programme (USAP). Transport Canada co-chaired this initiative and because of its recognized expertise, has trained inspectors worldwide to work on inspection teams.

- The ICAO Aviation Security Awareness Training Programme. Transport Canada continued to support this Programme by training civil aviation security officials in the Latin America and the Caribbean regions, and by sharing its expertise on aviation security activities.
- Active participation in, and cooperation with, other international fora such as:
 - the Transportation Security Cooperation Group (TSCG), co-chaired by Transport Canada in 2005. The TSCG brings together Canada and the U.S. to discuss issues of common interest related to transportation security; and
 - the North American Aviation Trilateral (NAAT), a forum enabling Canada, the U.S. and Mexico to discuss aviation security concerns.

Both TSCG and NAAT also enabled Canada to make progress toward harmonizing aviation security policies and regulations across the three countries.

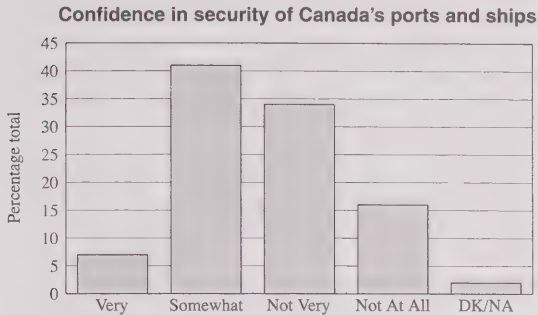
In addition, Transport Canada worked jointly with the U.S. departments of Homeland Security and Transportation to manage aviation security issues and align regulatory requirements and on the Counter-Terrorism Bilateral Agreement.

MARINE SECURITY

The Government of Canada continues to put marine security at the forefront of security enhancements. As a result, Canadians are becoming increasingly more aware of the various enhancements to marine security. An Environics survey reveals that nearly half of those Canadians who were polled say they are confident with the level of security (with seven per cent saying they are very confident). Close to half of all Canadians recall hearing or seeing something in the past year relating to new federal government measures taken to improve the security of Canada's ports and ships. Those who recall hearing about such measures express a noticeably higher degree of confidence in the security of Canada's ports and ships. In general, despite being a relatively new program, Canadians have expressed confidence in the level of Canada's marine security. Figure 4-5 shows the public's perception of the security of Canada's ports and ships.

In 2005, Transport Canada continued to develop the national marine security regime through regulatory enhancements, inspection and enforcement, the Marine Security Contribution Program, and the work of the Interdepartmental Marine Security Working Group.

FIGURE 4-5: PUBLIC PERCEPTION OF MARINE SECURITY



Source: Environics Research Group

LEGISLATIVE AND REGULATORY ENHANCEMENTS

- Work continued on the development of the proposed Marine Transportation Security Clearance Program. In addition to attending several meetings across Canada with stakeholders, Transport Canada provided stakeholders with the latest draft of the proposed regulations and a package containing background information and further details on the proposed program.
- A working group was established and met during the November 2005 meeting of the Canadian Marine Advisory Council to examine the possibility of introducing new security requirements for domestic ferries.
- Transport Canada continues its work on an information guide for industry that will address security requirements for tall ships and all other special events.
- Work continued on the development of the potential use of Administrative Monetary Penalties, which involves the use of monetary penalties for contraventions of federal legislation. This form of enforcement action is typically more expedient and economical than criminal proceedings.
- Other activities included the administrative set-up in support of IMO regulatory requirements and the training and the provision of regulatory guidance/interpretation of the Marine Transportation Security Regulations (MTSRs) for both internal and external stakeholders.

INSPECTION AND ENFORCEMENT

Transport Canada has been active across the country carrying out various activities, including standard-setting, inspection and compliance, and completed awareness, education and support activities. During fiscal year 2004/05, Transport Canada made significant progress in the following areas:

- continued assessments of ports, facilities and vessels against regulatory requirements;
- worked with the Department of National Defence in establishing coastal Marine Security Operations Centres (MSOC) both in Halifax and Victoria to detect, assess, prevent and respond to a direct or indirect marine security threat;
- continued the development of training programs and tools to ensure that inspection/enforcement programs are consistent across Canada;
- maintained liaison with the U.S. Coast Guard, including the implementation of joint vessel inspections for foreign-flagged ships and reciprocal port visits to build on best practices;
- maintained liaison with Canadian and international stakeholders and industry;
- conducted and developed various industry awareness presentations and publications to ensure constant flow of information and awareness activities aimed at target audiences to keep them regularly informed of marine security developments and accomplishments.

MARINE SECURITY CONTRIBUTION PROGRAM

Enhancements to Canada's ports and marine facilities will continue under the \$115 million Marine Security Contribution Program, which is a three-year program to be carried out from 2004 to 2007. In 2005, more than \$50 million in funding was approved by the Marine Security Contribution Program for more than 600 security enhancement projects. Over the next two remaining years, the Program will continue to fund projects for security enhancements such as the purchase of surveillance equipment (including cameras and closed-circuit TV systems); improvements to dockside and perimeter security and access control, such as fencing, gate signage and lighting; and other port security enhancements.

Interdepartmental Marine Security Working Group (IMSWG)

Transport Canada leads the Interdepartmental Marine Security Working Group (IMSWG), which coordinates marine security efforts on behalf of the Government of Canada. Its composition includes other government departments participating in marine security enhancements. In 2005, the IMSWG ensured effective delivery of marine security initiatives; provided strategic advice on marine security gaps; facilitated cooperation and coordination among member departments and agencies; developed national marine security policy recommendations; and facilitated communication with federal departments and agencies and other key stakeholders. Transport Canada also administers the Marine Security Coordination Fund, which is a program to provide funding for one-time or short term projects that will enhance collaboration between departments in addressing marine security issues and enhancements. During 2005, Transport Canada administered funding for various projects approved under the fund to other departments including the Department of National Defence, Canada Border Services Agency and Fisheries and Oceans Canada.

Canada is represented by Transport Canada at many major international organizations, such as the International Maritime Organization, the G8, the Asia-Pacific Economic Cooperation and the Association of Southeast Asian Nations. All have identified the security of the global marine transportation system as a high priority. Transport Canada participated with partner nations in numerous conferences and meetings on a range of global marine security initiatives and issues and contributed to international marine security capacity building by delivering workshops in other countries.

SURFACE SECURITY

RAIL AND MASS TRANSIT SECURITY

Following the 2004 attacks on the rail system in Madrid, Transport Canada extended its rail intelligence-sharing network to major transit systems across Canada, including bus and subway systems. Members from coast to coast include railways, urban transit authorities — including those operating subway and bus systems — and bus lines.

Immediately following the attacks in London on July 7, and 21, 2005, Transport Canada activated this network to alert transit and rail operators across the country, and to encourage them to exercise increased vigilance. The network proved to be a very effective tool

for quickly heightening awareness and for transit operators to share information about their responses. Transport Canada will continue to work with rail and transit authorities to develop further enhancements to security in these areas, based on threat and risk analysis.

As a result of extensive consultations with the rail and transit operators, the provinces, and the Railway Association of Canada, the Minister announced an immediate action plan designed to address security priorities and to enhance security for passenger rail, public transit and ferry operations through complementary components, including;

- creating a new passenger rail and public transit security contribution program, called RideSecure, focussed on commuter rail, subway and major transit systems;
- enhancing Transport Canada's ability to provide security expertise and specialized technology assessments and to coordinate the development and sharing of best practices with its partners in rail and public transit security;
- conducting mass transit emergency preparedness exercises to be led by Public Safety and Emergency Preparedness Canada in collaboration with key jurisdictions and stakeholders; and
- creating a new Mass Transit Task Force on intelligence, policing and response.

INTERMODAL CARGO SECURITY

The security of the freight supply chain, that is, containerized cargo, moving internationally is becoming a major transportation security issue. This is expected to continue, and Canada needs to play an appropriate role in ensuring the security of this aspect of the national transportation system. In 2005, Transport Canada, along with Public Safety and Emergency Preparedness Canada, the Canadian Border Services Agency, the provinces of Quebec and Nova Scotia, and the states of New Hampshire, Vermont, Maine and New York continued to collaborate on the Canada-U.S. Cargo Security Project. This project will evaluate technology used to track the movement of cargo containers transiting in the supply chain and detect any security breaches as they move through the transportation system.

CRITICAL INFRASTRUCTURE ASSURANCE AND EMERGENCY PREPAREDNESS

NATIONAL CRITICAL INFRASTRUCTURE ASSURANCE PROGRAM (NCIAP)

In Canada a network of physical and computer-based infrastructures — collectively referred to as National Critical Infrastructure — provide essential energy, transportation and communications, as well as safety, financial, health and emergency response services. These infrastructures are essential to the health, safety, security and economic well-being of Canadians and to the effective functioning of governments. Under the National Critical Infrastructure Assurance Program, Transport Canada and 11 other federal government departments strive to:

- achieve an effective national emergency management system;
- enhance protection and survivability of critical infrastructure; and
- reduce loss of life and property resulting from major disasters, accidents or intentional acts.

Transport Canada's role is to help protect Canada's key transportation facilities, services, assets and information. In 2005, Transport Canada continued to work with a number of federal government departments, the provinces, territories and other stakeholders to develop a National Critical Infrastructure Protection (CIP) Strategy. Transport Canada also continued to work cooperatively with the U.S. on critical infrastructure protection and emergency management issues, including co-chairing the Canada-U.S. CIP Steering Committee.

EMERGENCY PREPAREDNESS ACTIVITIES

Transport Canada participated in the following:

- the Canadian part of the exercise TRIPLE PLAY / TOPOFF 3 / ATLANTIC BLUE, a major Canada/U.S./U.K. counter-terrorism exercise which assessed Canada's ability to act quickly, decisively and effectively in concert with international partners in the event of a terrorist attack or other emergency;
- the "International Radiological Nuclear Exercise 3 (INEX-3)," a major exercise to test Canada's Federal Nuclear Emergency Plan (FNEP), the aim of which was to test the Canadian late phase and recovery response plans in the event of a national level radiological contamination;

- exercise Atlantic Guard III, the aim of which was to enhance the collective ability of various government departments and agencies to react to security related threats within Atlantic Canada;
- eight meetings of NATO's Transportation Plenary Boards, Committees and their working groups in accordance with the department's responsibilities under Canada's International NATO Policy.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) RESPONSE PROJECT

The goal of the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project is to secure access to trained industrial emergency response teams who, when requested by authorities, are capable of helping first responders handle dangerous goods used as CBRN agents in terrorism situations in Canada. Transport Canada began implementing this project for the transportation of dangerous goods in 2002.

These response teams, developed over the years under the *Transportation of Dangerous Goods Act* Emergency Response Assistance Plan requirements, routinely provide assistance to first responders in handling dangerous goods involved in transportation accidents. They are appropriately trained and equipped for conventional dangerous goods but will require additional training for non-conventional CBRN agents.

In 2005, Transport Canada continued to work with other federal government departments and the provinces in order to share information and best practices, and increase capabilities to respond in the event of an incident. The department established a database of industrial emergency responders, their capabilities relating to specific products, and geographical areas of response. Potential industrial responders have been provided with additional awareness training, and many have expressed interest in the project. At this time, there are approximately 30 organizations participating in the CBRN Response Program on a voluntary basis.

TRANSPORTATION AND THE ENVIRONMENT

5

Levels of greenhouse gas emissions from freight transportation have increased; however, emissions grew more slowly than overall activity.

OVERVIEW

The relationship between transportation and the environment is multi-faceted. It concerns the direct and indirect environmental effects of transportation activity — the actual movement of goods and people — and the transportation system. That system includes the construction and operation of the infrastructure and the vehicles, ships or aircraft involved. The major current sources of air pollution from transportation are carbon monoxide, carbon dioxide, oxides of nitrogen and volatile organic compounds: the causes of urban smog and climate change. The major sources of transportation-related water pollution are spills of oily wastes and releases of invasive species in ballast water. Significant degradation of land occurs because of spills and discharges from transportation facilities and mobile equipment.

This is a difficult problem in a country like Canada. The demand for transportation is a derived demand, as it is determined by the need for moving people and goods. As the size of the population, the economy and trade grow, so too does the demand for transportation. The demand for transportation fuels, and consequently the level of emissions, is a function of current transportation infrastructure, vehicles, geography (long distances and urban settlement patterns) and weather, as well as the cost of fuels themselves. The challenge is to find a way to de-link the growth in population, economic activity, and transportation demand on the one hand from fuel consumption and emissions growth on the other.

Reducing pollution from transportation presents a complex set of policy choices. Much effort has focussed on improving the technology that is embedded in vehicles and transportation systems, changing the content of fuels, or developing alternative fuels. A wide range of regulations are in place governing fuel quality, combustion, and operating practices. Increasing efforts

are being made to change the design of transportation systems, to influence transportation behaviour, and to reduce transportation fuel demand.

Governance presents another challenge. The environment is not defined by the constitution, federal and provincial governments have a shared jurisdiction in this matter and municipal governments have an important role to play. Within the federal government, several departments have responsibility for transportation and the environment, particularly Transport Canada, Environment Canada, and Natural Resources Canada.

ENVIRONMENTAL TRENDS IN TRANSPORTATION

This section will show how the most recent trends in both greenhouse gas (GHG) and criteria air contaminants (CAC) emissions relate to transportation. It will also illustrate that despite continued growth in transportation services, important strides have been made to improve emission levels in some areas while several challenges remain in others.

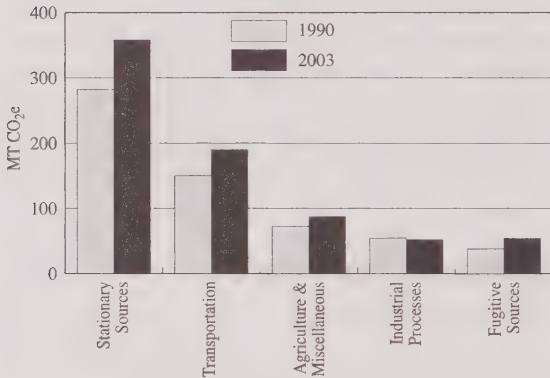
CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

Climate change is caused by increases in GHG emissions, which may significantly alter weather and climate patterns around the world, thus increasing the frequency of severe weather events and enhancing the risk of weather-related disasters. Transportation and other sectors of the Canadian economy are still faced with the enormous challenge of climate change. These changes are already having an impact on the Canadian transportation system, especially in the North.

The total GHG emissions in Canada in 2003 were 740 megatonnes (Mt), a 2.9 per cent increase from 2002, and 144 Mt higher than in 1990. Figure 5-1 shows that the transportation component of total emissions was 190 Mt in 2003, or 25.7 per cent of the total. This is up from the 2002 level of 180 Mt (25.0 per cent of total emissions). However, since 1990, transportation's share of total emissions has remained fairly stable at around 24 to 26 per cent of the total.

On-road emissions accounted for 74 per cent of total transportation emissions, domestic air-related emissions accounted for four per cent, and rail and domestic marine both accounted for three per cent. The remaining transportation-related emissions, off-road and pipelines, accounted for a combined 16 per cent of total GHG emissions in 2003.

FIGURE 5-1: TOTAL GHG EMISSIONS BY SECTOR, 1990 AND 2003



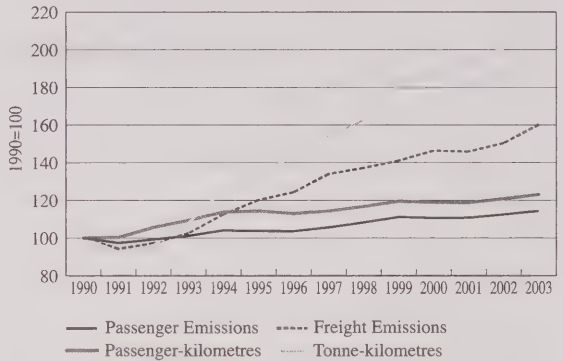
Source: Canada's Greenhouse Gas Inventory, 1990–2003, Environment Canada

Figure 5-2 shows the trends from 1990 to 2003 in on-road GHG emissions and activity levels from the passenger and freight sectors (1990 levels indexed to 100). Emissions from on-road passenger travel increased by roughly 14 per cent over this period, from 69 to 78 Mt. Passenger-kilometres (a common measure of activity) increased by 23 per cent throughout this period, indicating a small improvement in the GHG intensity of on-road passenger vehicles transportation.

Figure 5-2 also shows that GHG emission levels for on-road freight increased by 60 per cent, from 34 to 54 Mt, from 1990 to 2003. While this is more than double the increase in passenger GHG emissions, it should be viewed in the context of a rise of 120 per cent in freight activity levels measured in tonne-kilometres. This indicates that while freight is accounting for increasing levels of GHGs compared with passenger travel, it is also becoming more efficient by decoupling GHG emissions

from activity. This has been achieved in a number of ways, including the adoption of better operating practices and the use of more efficient equipment.

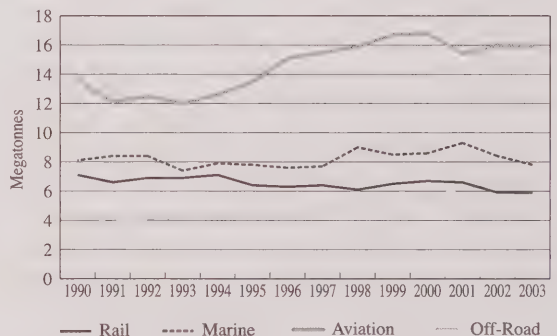
FIGURE 5-2: TRENDS IN ROAD TRANSPORTATION GHG EMISSIONS AND ACTIVITY, 1990 – 2003



Source: Energy Use Handbook: June 2005; NRCan, OEE

Figure 5-3 shows the trends in GHG emissions from the rail, aviation, marine and off-road sectors for the 1990–2003 period. Aviation is the largest non-road contributor to transportation sector GHG emissions, with 16 Mt in 2003, a 17 per cent increase since 1990. This increase occurred while airlines were employing more fuel-efficient aircraft, as well as larger aircraft with increased load factors. At 8 Mt, the marine sector was the next largest contributor to GHG emissions; overall, marine emissions have been relatively constant over this period, with a four per cent decrease. The rail sector was responsible for 6 Mt in 2003, a 17 per cent reduction over 1990, even though rail freight activity levels have increased by 30 per cent since 1990.

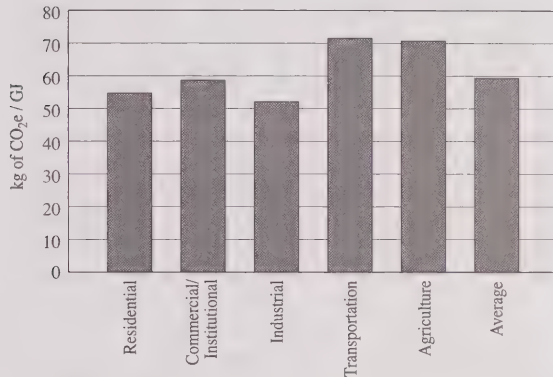
FIGURE 5-3: NON-ROAD TRANSPORTATION GHG EMISSIONS, 1990 – 2003



Source: Energy Use Handbook: June 2005; NRCan, OEE

Even though transportation GHG emissions are increasing at a slower rate than activity because of the more efficient travel of people and goods, all modes of transport are still greatly dependent on GHG-intensive hydrocarbons to provide them with energy. In fact, when looking at energy end use (including residential, commercial and institutional buildings, as well as industrial, agricultural and transportation activities), the sources of energy used in the transportation sector make it the most GHG intensive sector per unit of energy consumed in the Canadian economy, as is shown in Figure 5-4.

FIGURE 5-4: GHG INTENSITY OF ENERGY END USE SECTORS, 2003



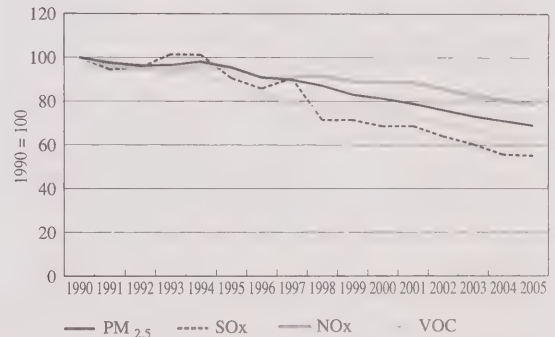
Source: Energy Use Handbook: June 2005; NRCAN, OEE

AIR POLLUTION EMISSIONS

Air pollution emissions represent a significant environmental and health issue for Canadians, roughly 80 per cent of whom live and work in urban areas. These emissions include pollutants such as nitrogen oxides (NOx) and sulphur oxides (SOx); volatile organic compounds (VOC) such as gasoline fumes and solvents; and particulate matter (PM₁₀ or PM_{2.5}). They are emitted from a wide range of sources, including the transportation system. Perhaps the most visible impact is urban smog, which has been linked to numerous health-related problems and to several thousand premature deaths in Canada each year. Smog is composed of two main ingredients: ground-level ozone and particulate matter. Ground-level ozone is created when NOx and VOC react together under specific conditions, such as calm, sunny days. NOx, along with SOx, are also the components of acid rain. Particulate matter is produced during the combustion of fossil fuels, including motor vehicles, industrial processes and power plants. Dust from paved and unpaved roads and road construction as well as forest fires are also major sources of particulate matter.

Fuels vary considerably in terms of the emissions to which they give rise. For example, in 2005, on-road and off-road diesel engines account for roughly 70 per cent of transportation-related PM_{2.5} emissions (off-road diesel use alone accounts for 58 per cent) and 54 per cent of transportation-related NOx emissions. Gasoline engines, on the other hand, account for 87 per cent of transportation-related VOC emissions. Marine transportation, which uses a mix of diesel and heavy fuel oil, is responsible for 41 per cent of transportation-related SOx emissions. Figure 5-5 illustrates the trends in transportation-related PM_{2.5}, SOx, NOx and VOC emissions (1990 trends indexed to 100). Since 1990, the trend in all of these emissions has been downward, largely due to regulatory changes introduced by the federal government to reduce the health impacts of smog and the impacts of acid rain.

FIGURE 5-5: AIR POLLUTION EMISSIONS FROM THE TRANSPORTATION SECTOR, 1990 – 2005



Source: Environment Canada: 2002 Criteria Air Contaminant Inventory, Preliminary Estimates

LAND AND WATER QUALITY

Commercial Shipping

The prevention of pollution from ships arises from regulations authorized under the *Canada Shipping Act* and *Arctic Waters Pollution Prevention Act*. In 2005, new proposed regulations were drafted. These proposed regulations are comprehensive, streamlined, and up to date and include new requirements particularly in the area of both sewage and air pollution prevention.

Canada is a signatory to the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78). Provisions of Annex I, II, and III of the Convention are incorporated in our current regulations. The proposed new regulations would position Canada to further ratify Annex IV (sewage), Annex V (garbage) and Annex VI (air).

Transport Canada continues to strictly enforce pollution prevention regulations, inspecting ships for compliance with pollution prevention provisions and investigating of pollution incidents. Through the implementation of the National Aerial Surveillance Program (NASP), Transport Canada conducts routine pollution surveillance patrols over Canada's commercial shipping lanes to detect illegal discharges of oil from ships and to deter potential polluters. Three aircraft are strategically placed across the country to conduct pollution patrols in Transport Canada regions. During the 2005-06 fiscal year, Transport Canada is targeting 2000 pollution patrol hours.

Ballast Water

Ballast water is water carried in ship's tanks in order to allow the ship to sail safely when it is not fully loaded. When discharged, organisms and pathogens contained in the ballast water can be unintentionally transferred to a new location, which can be extremely harmful to both the ecosystem and the economy. Transport Canada published proposed Ballast Water Control and Management Regulations in the *Canada Gazette Part I* in June 2005. The proposed regulations address the exchange, treatment, disposal and retention of ballast water on board ships, and address ships with "no ballast on board". Transport Canada has reviewed comments made during the consultation period after publication in Part I and made several changes to the Part I version in order to clarify the intent of the requirements.

In 2005, Transport Canada received initial funding for two years under Phase 1 of the Oceans Action Plan to address ballast water issues, in particular research into shipboard ballast water treatment technologies.

Transport Canada is also promoting the introduction of a green ship program in Canada to provide incentives to environmentally friendly ships. Ballast water treatment technology is one of the factors being considered.

AIR QUALITY

Transport Canada has the legislative and regulatory authority over emissions from marine (*Canada Shipping Act*), rail (*Railway Safety Act*) and aviation (*Aeronautics Act*) sources. Authority for emissions from road vehicles was transferred to Environment Canada from Transport Canada in 2000.

Rail

Canada has had regulations controlling the permitted levels of pollutants in road vehicle exhaust for many years, but there are no corresponding regulations for railway locomotives. The federal government intends to control pollution from railways through a voluntary Memorandum of Understanding (MOU) between Transport Canada, Environment Canada and the Railway Association of Canada (RAC). The MOU calls for the RAC to prepare an annual report on the gross overall emissions from all the locomotives owned by its member companies, and sets targets for CAC and GHG emissions on a kilogram per 1,000 tonne-mile basis. This MOU is to be derived from a ten-year agreement between Environment Canada and the RAC which expired on December 31, 2005, and which was primarily concerned with limiting oxides of nitrogen (NOx) emissions.

In order to calculate emission levels under the terms of the MOU, it is necessary to multiply locomotive fuel consumption by "emission factors" defined in grams of emissions per litre of fuel consumed. Valid, repeatable testing to industry-recognized standards is expensive to perform, with only a few laboratories having the required equipment. Therefore it is desirable to expand the body of information by carrying out practical tests on representative modern locomotives. To this end, Transport Canada is running a program of locomotive emissions testing on in-service locomotives, financed by the Borders Air Quality fund, with additional money from the Program for Energy Research and Development (PERD). In 2005, only one locomotive was part of the program, but this should increase to three in 2006.

Marine

The International Maritime Organization (IMO) requirements for air emissions are contained in Annex VI of MARPOL, *Regulations for the Prevention of Air Pollution from Ships*. These regulations cover topics such as ozone depleting substances, nitrogen oxide emissions from new diesel engines, and sulphur content of fuel oil. These international regulations came into force in May 2005. Transport Canada is proposing to include the Annex VI provisions as part of the 2006 regulatory reform of the *Canada Shipping Act*, 2001 for domestic implementation.

Aviation

The limits for aircraft emissions, as well as operational measures to reduce emissions, are based on standards and recommended practices that are first developed by the International Civil Aviation Organization's Committee on Aviation Environmental Protection (CAEP). These standards and practices are adopted as regulations under the authority of the *Aeronautics Act*.

Transport Canada has taken a lead role with the environmental committee of the International Civil Aviation Organization (ICAO). The key issues currently being addressed by the committee are aircraft noise, engine emissions and meeting the Kyoto Protocol. The comprehensive plan to address noise and emissions is based on a balanced approach of technical improvements, revised operational measures and local restrictions. The department will continue to improve standards for aircraft noise and engine emissions whenever it is justified, technically achievable and economically reasonable. The Kyoto Protocol requested that states pursue limitations or reductions in international aviation emissions through ICAO. The department is currently seeking international consensus on a plan, which includes technological improvements, more efficient operational procedures, voluntary measures and emissions trading mechanisms.

Transport Canada monitors emissions generated by airports and aviation activities. It has initiated research activities for the reduction of aviation emission activities within the sector and is a partner in the Centre of Excellence with the Federal Aviation Administration and the National Aeronautics Space Administration.

Use of Glycol

In 2005, Transport Canada reviewed the use of glycol, a fluid used to de-ice aircraft surfaces for safety purposes prior to flight departures during periods of inclement winter weather. Although glycol sometimes pollutes the air and groundwater, of greater significance is the hazard to aquatic life posed as a result of stormwater flowing into surface waters. To ensure that airport effluent does not negatively impact the environment, Transport Canada has implemented a program to sample and analyze stormwater at its airports. Water quality programs have also been established by local and Canadian airport authorities. Both Transport Canada airports and local airport authorities have implemented, in conjunction with air carriers, detailed glycol mitigation plans and procedures.

CLIMATE CHANGE INITIATIVES

Transport Canada develops and administers programs and special initiatives to support a more sustainable transportation system in Canada, including through the reduction of GHG emissions from transportation.

RECENT FEDERAL DEVELOPMENTS IN CLIMATE CHANGE

The Kyoto Protocol on Climate Change has been ratified by Canada and officially entered into force on February 16, 2005. The Protocol requires Canada to reduce its GHG emissions by six per cent below 1990 levels by the commitment period of 2008–2012. Considering transportation is the single largest emitter of GHGs in Canada, Transport Canada, along with its stakeholders, will continue to play an important role in developing strategies and programs that assist to mitigate and adapt to impacts of climate change on the transportation sector.

The United Nations Climate Change Conference (COP11) was held in Montreal from November 28 to December 9, 2005. This was also the First Meeting of the Parties to the Kyoto Protocol (MOP 1).

MOTOR VEHICLE INITIATIVE

The Advanced Technology Vehicles Program (ATVP) is a component of the Motor Vehicle Fuel Efficiency Initiative. The goal of the ATVP is to support Transport Canada's efforts to reduce GHG emissions in the transportation system. As of December 2005, the ATVP assessed 126 vehicles for their fuel efficiency, emissions and safety performance, including the Mercedes-Benz Smart Car. In addition, 7.1 million Canadians have been reached through 145 special events undertaken to showcase and raise public awareness of advanced technology vehicles.

MEMORANDUM OF UNDERSTANDING BETWEEN THE GOVERNMENT OF CANADA AND THE AUTO INDUSTRY ON REDUCING GREENHOUSE GAS EMISSIONS BY 2010

On April 5, 2005, the Government of Canada and the Canadian automobile industry signed an agreement to act on climate change. Under the agreement, carmakers will voluntarily work to reduce annual GHG emissions from light-duty vehicles by 5.3 Mt in 2010. The agreement exceeds the reduction needed to improve fuel efficiency by 25 per cent and targets all GHGs, going beyond the reductions in carbon dioxide emissions associated with fuel efficiency. To assess progress toward meeting this target, a joint industry-government monitoring committee has been established.

ECONOMIC INSTRUMENTS ANALYSIS

In 2005, Transport Canada officials developed a framework to analyze the possible use of incentives and disincentives to promote environmentally friendly vehicles. To conduct this analysis, Transport Canada developed a feebate analysis tool that was based on a state-of-the-art, peer-reviewed model created for the U.S. market. The Canadian version of this tool was developed with the collaboration of Dr. David L. Greene, U.S. Oak Ridge National Center for Transportation Analysis.

The model developed by Transport Canada was used by the National Round Table on the Environment and the Economy to conduct their analysis of feebate options, which was released to the public in November 2005.

FREIGHT INITIATIVES

Freight Efficiency and Technology Initiative

Led by Transport Canada, in collaboration with Natural Resources Canada, the Freight Efficiency and Technology Initiative (FETI) is designed to reduce the growth of GHG emissions from freight transportation. It has three components: the Freight Sustainability Demonstration Program (FSDP); voluntary performance agreements between the federal government and modal associations to improve fuel efficiency and reduce GHG emissions; and information-sharing initiatives with the freight industry. In 2005, the FSDP allocated approximately \$1.85 million for 14 new demonstration projects, bringing the total to \$4.7 million for 35 projects. Six new projects began after contribution agreements were signed during the summer and fall months. Sixteen projects are now underway and three are completed.

An agreement was signed in June 2005 with the Air Transport Association of Canada (ATAC) to voluntarily reduce GHG emissions in the aviation sector. Through this voluntary agreement, ATAC will help its members improve their energy efficiency by an average of 1.1 per cent a year. This will result in a collective GHG emission reduction of 24 per cent by 2012, when compared with 1990 levels.

In 2005, FETI organized a marine conference to promote understanding and actions in support of sustainable freight transportation.

Freight Efficiency Program

Launched as part of the Climate Change Plan for Canada, the Freight Efficiency Program (FEP) is led by Transport Canada and is designed to reduce the growth of GHG emissions from freight transportation. This program is complementary to FETI and also has three components: the Freight Incentives Program (FIP); Marine Shore Power Pilots Project and a Shipper Awareness Program.

The Freight Incentives Program (FIP) provides financial incentives to purchase and install efficiency-enhancing technologies and equipment in the air, rail and marine modes. In 2005, the FIP had its second annual submission deadline, and approximately \$2.2 million was allocated toward ten projects, bringing total program funding to approximately \$3.2 million allocated to 13 projects.

Marine Shore Power has been identified as a promising ship-idling reduction technology with the potential to reduce the growth of GHGs and other pollutants in the marine sector. The Marine Shore Power Pilots Project has been established to provide funding for the installation of marine shore power at suitable locations across Canada. In fall 2005, Transport Canada received the final report of the Marine Shore Power Feasibility Study, which will serve as the foundation of the Marine Shore Power Pilots Program. The report includes a short-list of 15 promising port facilities across Canada.

The aim of the Shipper Awareness Program is to enhance the understanding of shippers, freight forwarders, transportation brokers and logistics service providers about the environmental impacts of their business decisions, and improve uptake of transportation alternatives available to them to reduce GHG emissions. Since the launch of the program in 2005, Transport Canada officials have consulted with industry to inform the development of the program, and partnered with the Canadian Industrial Transportation Association (CITA) and Supply Chain and Logistics Canada (SCL) to conduct baseline studies and shipper awareness focus groups. The CITA completed their benchmarking survey in winter 2005.

URBAN INITIATIVES

Transport Canada administers two programs that encourage more sustainable transportation in Canada's cities and communities. These programs help municipal and non-profit partners test and implement cost-effective transportation strategies. The co-benefits of these programs support other important policy objectives for the transportation system in Canada, such as smog reduction, congestion relief and improved health. The programs are:

- Moving on Sustainable Transportation (MOST) program funds innovative, community-based sustainable transportation projects.
- Urban Transportation Showcase Program (UTSP) funds, in partnership with provinces and municipalities, integrated urban transportation "showcase" projects that demonstrate, evaluate, and promote cost-effective strategies for reducing GHG emissions. A Web-based national information network that shares innovative approaches to planning, implementing, and measuring the results of sustainable urban transportation initiatives, is also a component of this program.

In 2005, five municipalities continued to implement their UTSP demonstration projects: Halifax, Waterloo, Toronto/Hamilton, Whitehorse and Vancouver. For more information, visit <http://www.tc.gc.ca/programs/environment/utsp/menu.htm>.

Nineteen new MOST projects totalling \$757,000 were approved for funding over the past year, for a total of 27 ongoing projects during the course of the year. These projects represent a wide variety of initiatives, ranging from supporting innovative car sharing approaches to quantifying the positive impacts of teleworking. An annual review rolled up the 18 completed projects, including Science West's *Getting Around: A Driving Force For Change* that won the Innovation Award from the Canadian Urban Transit Association and received the Award of Excellence from the conference of the Association for Media and Technology in Education in Canada.

Transport Canada completed a study examining the national impact of planned urban transit investments on urban transportation GHG emissions.

COST OF URBAN CONGESTION IN CANADA STUDY

In 2005, Transport Canada completed the first systematic study to examine the costs of urban congestion for Canada's nine largest urban areas: Quebec City, Montreal, Ottawa-Gatineau, Toronto, Hamilton, Winnipeg, Calgary, Edmonton, and Vancouver. As a wide range of congestion measurements exists, the study assessed and compared the various approaches and suggested a framework that could be used to benchmark recurrent urban congestion in Canada — that is, congestion that occurs from the regular, daily build-up of traffic. The study defines congestion as occurring when vehicles travel at or below an acceptable threshold of free-flow speed along a roadway. It examined traffic flows of between 50, 60 and 70 per cent of free-flow speed to account for what people from different cities consider to be the threshold. The study found that urban recurrent congestion costs Canadians between \$2.3 billion and \$3.7 billion in 2002 \$ values. More than 90 per cent of this cost is the time lost in traffic to drivers and passengers; 7 per cent is attributable to increased fuel consumption; and 3 per cent is from increased greenhouse gas emissions.

This estimate of congestion costs is conservative, since it does not include the costs of non-recurrent congestion (i.e. congestion caused by random events, such as bad weather, accidents, stalled vehicles and other incidents). It also does not include the costs to the freight transportation sector. More data is required to better understand their costs. It is difficult to draw accurate comparisons between each city, since the data and how they are compiled in each city are different, and each city has different perceptions on what congested road conditions are.

The aim of the study was to enhance our understanding of congestion and its impact to improve cost-benefit analysis of climate change initiatives that reduce congestion. Transport Canada released the results of the study on March 22, 2006. More information can be found at <http://www.tc.gc.ca/mediaroom/releases/nat/2006/06-h006e.htm>.

FEDERAL HOUSE IN ORDER INITIATIVE

The Federal House in Order (FHIO) initiative is the Government of Canada's plan for reducing GHG emissions arising from its operations, in line with *Action Plan 2000 on Climate Change*. Transport Canada, along with 10 other federal government departments, is required to report fuel consumption and GHG emissions including emissions from four categories of transportation (air, marine, on-road vehicles and field equipment) and building emissions. In 2001, the Government of Canada announced its intention to reduce emissions from its own operations by 31 per cent from 1990 levels by 2008–2012. As one of the principal operational departments, Transport Canada's share of the target is equivalent to a four per cent reduction from its 1998/99 baseline year. For more information about the program or to obtain a copy of the Federal House in Order 2004–2005 report, contact env@tc.gc.ca.

TRANSIT PASS PROGRAM

Under the FHIO initiative, Transport Canada has developed the Transit Pass program, an initiative developed with the transit companies in the National Capital Region (NCR) to encourage federal employees to use public transit by offering an annual pass with a discount. The program began originally as a payroll deduction pilot project among four departments including Transport Canada. Upon successful conclusion of the pilot, Transport Canada negotiated an agreement with OC Transpo to allow all federal departments and agencies in the NCR to have access to discounted transit passes through payroll deduction. As of December 2005, seven per cent of the 90 eligible departments and agencies have joined the Transit Pass Program representing over 8,000 public servants using payroll-deducted transit passes.

ENVIRONMENTAL MANAGEMENT

Transport Canada is responsible for managing its lands and facilities in an environmentally responsible manner. The department promotes compliance with environmental laws and federal government policies in its day-to-day operations, with a strong focus on bringing and maintaining its activities in line with federal policies and best practices. Transport Canada is responsible for a wide range of operations and approximately 886 properties, including fleets of aircraft and vehicles, as well as stores, warehouses, and offices in central and remote sites across the country. Although the department no longer directly operates many components of the transportation system, it retains the role of landlord and manager for major components of the system, including the National

Airports System. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its lands and facilities.

Contaminated Sites

The federal government's 2004 Budget committed \$3.5 billion over 10 years to accelerate the clean up of contaminated sites for which the Government of Canada is responsible. Transport Canada received funding through the Federal Contaminated Sites Accelerated Action Plan (FCSAAP) for two remediation and 10 assessment projects in 2004/05 for a total of \$7.6 million. In 2004/05, Transport Canada spent a total of \$26.2 million on the assessment and remediation/risk management of contaminated sites, including funding from the FCSAAP.

ENVIRONMENTAL MANAGEMENT SYSTEM

In order to set a positive example and to reduce its own environmental impacts, Transport Canada has increasingly been integrating environmental considerations into daily planning and decision-making. To achieve this objective, the department has adopted an Environmental Management System (EMS), an approach that has been used by governments and private companies around the world to ensure environmentally sound practices and to minimize liability. Fundamental to successfully integrating environmental considerations into daily decision-making, the EMS helps the department meet its objectives for sustainable development. The goal of the EMS is to produce a framework for continuous monitoring of departmental operations, which provides direction to its environmental activities.

In 2004/05, the department reviewed its current EMS audit protocol (adopted from Environment Canada) and determined that a Transport Canada specific audit protocol would better serve the department's needs. A new protocol was developed and is scheduled to be on Transport Canada's Intranet site by 2006.

ENVIRONMENTAL EVALUATION AND MITIGATION

As operator, landowner and landlord, Transport Canada continues to manage properties that have been contaminated by commercial and industrial activity. The department is committed to managing these contaminated sites in a responsible manner — its work on this front includes an ongoing contaminated site management program and a management policy that requires all contaminated sites on Transport Canada lands to be identified, classified, managed and recorded.

Environmental Assessments

Transport Canada conducts environmental assessments (EAs) for proposed projects in accordance with the *Canadian Environmental Assessment Act* (CEAA). Under the CEAA, Transport Canada must ensure that an EA is conducted whenever one of the following "triggers" is present — that is, when the department is: the proponent of a project; proposing to fund a project; the owner of the lands; proposing to sell or lease lands for the project; or, proposing to issue an approval or authorization listed in the Law List Regulations under CEAA. This process allows Transport Canada to request project proposals to be modified in order to prevent, minimize, or manage predicted adverse environmental effects, or may lead Transport Canada to refuse the project approval needed for the project to proceed.

In 2004/05, Transport Canada participated in a total of 883 EAs, of which 367 were completed and 516 were still underway. Most (853) of the EAs were screenings, while 21 were comprehensive studies and nine were panel reviews.

Strategic Environmental Assessment (SEA) is a systematic process for evaluating the environmental effects of policy, plan and program proposals to ensure that they are addressed early in the decision-making process and on an equal footing with economic and social considerations. Since the issuance of the first *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals* in 1990, the department has implemented a number of measures to promote, undertake and monitor the environmental assessment of policy, plan and program proposals submitted to Cabinet or to the Minister of Transport for consideration. Transport Canada completed a total of 43 preliminary scans for policy, plan and program proposals during fiscal year 2004/05. One detailed analysis was completed and one was ongoing during this period.

RAIL TRANSPORTATION

6

Both CN and CPR experienced increases in revenue tonne-kilometres in 2004. Canada–U.S. rail traffic was down in 2005 for Canada's rail export tonnage, but up for Canada's rail import tonnage.

MAJOR EVENTS IN 2005

Two new railways were created in 2005, the Fife Lake Railway in Saskatchewan and the Tshiuetin Railway in Newfoundland. Rail rationalization activity has plateaued in recent years, and the rail network contracted only marginally during the year.

Overall employment in the railway industry continued to decline during 2004, as it has over 15 years, while rail output over the same period has continued to increase.

INFRASTRUCTURE

The structure of Canada's rail system remained relatively stable in 2005. The only discontinuances were in Saskatchewan and Alberta, where Canadian Pacific Railway (CPR) discontinued 89 route-kilometres of track. CPR also transferred 13 route-kilometres to Capital Railway in Ontario, 16 route-kilometres to Agence Métropolitaine de Montréal in Quebec and 97 route-kilometres in Saskatchewan to the newly formed Fife Lake Railway. Other changes included a 339 route-kilometre reversion of track in Saskatchewan from Prairie Alliance For the Future (PAFF) back to Canadian National Railway (CN)

and 215 route-kilometres of track transferred from Quebec North Shore & Labrador Railway to the newly formed Tshiuetin Railway in Newfoundland (and a small section of track in Quebec).

Shortline railways in Canada began modestly in the late 1980s and grew slowly during the early 1990s. Only 11 new shortlines formed before 1996. After the *Canada Transportation Act 1996* came into force, their number and activity exploded, with 37 new shortlines forming between 1996 and 2000. Since then, however, only a few new shortlines have been created. It is probable that more transfers will occur in coming years but it is unlikely they will do so at the same rate as in the 1990s.

Approximately 9,900 kilometres of rail line were discontinued between 1990 and 2005, most of it divided fairly equally between CN and CPR. While the majority of discontinuances used to be in eastern Canada, mainly Ontario and Quebec, most of the recent track loss has been in the Prairie provinces. Transfers typically occur from CN or CPR to other carriers. Lately, however, a substantial amount of track has been transferred among other carriers, as well as from regional carriers like Algoma Central and BC Rail¹ to CN. This also includes the more recent reversion of shortline trackage back to CN (PAFF in 2005 and RailAmerica's Alberta shortlines in January of 2006).

TABLE 6-1: RAILWAYS IN CANADA, 2005

	2005 Owned / Leased Route- kilometres	2004 Owned / Leased Route- kilometres	Per cent of total (2005)	Percentage change over previous year
CN Rail [CN]	21,631	21,293	44.6	1.6
CP Rail [CPR]	13,129	13,347	27.1	(1.6)
Regional and Shortline Railways	12,871	13,209	26.6	(2.6)
All Others ¹	835	834	1.7	0.2
Total	48,467	48,683		(0.4)

Notes: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.
Totals may not add up due to rounding.

1 Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Source: Transport Canada

1 For BC Rail for 2004, data other than rationalization and traffic was reported as a separate entity. It is to be fully integrated as part of CN beginning with 2005 fiscal year reporting.

Table 6-2 shows rationalization activity in the rail sector in 2005 and from 1990 to 2005.

TABLE 6-2: RAILWAY RATIONALIZATION IN CANADA

		2005 <i>Rationalization</i>	1990 – 2005 <i>Rationalization</i>
Discontinuances	CPR	89	4,662
	CN		4,231
	Other		1,065
	Total	89	9,958
Transfers	CPR	126	3,982
	CN		7,983
	Other	554	4,705
	Total	680	16,670
Total	CPR	215	8,644
	CN		12,214
	Other	554	5,770
	Total	769	26,628

Note: Totals may not add up due to rounding.

Source: Transport Canada

Since 1990, 26,628 kilometres of line have been rationalized. As a result, the structure of Canada's rail industry has changed significantly. CN and CPR are still the dominant carriers, accounting for about 90 per cent of industry activity and revenues. However, they operate about 75 per cent of the total domestic rail network instead of the 90 per cent they operated a decade ago.

Addendum tables A6-1 and A6-2 provide further details of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

The number of rail carriers more than doubled in the 1990s, dramatically altering the character of the industry. Despite these changes, CN and CPR continued to generate the bulk of revenues in the rail industry. In 2004, the rail industry generated \$8.9 billion in revenues. The Class I carriers, namely CN, CPR and VIA Rail, generated 90 per cent of this total, only slightly less than their 90.5 per cent share in 1990. Despite this, Class I carrier revenues grew 1.6 per cent per year from 1990 to 2004. By contrast, revenues of the regional² railways (BC Rail, Algoma Central,³ Ontario Northland, Cartier Railway and the Quebec North Shore & Labrador) fell by 0.3 per cent per year up to 2002. Since Algoma Central's takeover by CN, this rate has jumped to 1.0 per cent per year for the 1990 – 2004 period. Shortline revenues grew 11.6 per cent per year over this period, from \$95 million in 1990 to \$444 million in 2004. The shortline sector's proportion of rail industry revenues grew from 1.5 to 5.3 per cent over this period.

Table 6-3 compares revenues in the railway sector in 2003 and 2004. Addendum Table A6-3 shows revenues since 1994.

TABLE 6-3: RAILWAY REVENUES, 2003 AND 2004

(Millions of dollars)		
	2003	2004
CN	4,002	4,275
CPR	3,010	3,263
VIA Rail	415	421
Subtotal Class I	7,427	7,959
Regional ¹	467	451
Shortlines ¹	405	444
Total	8,299	8,854

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

VIA Rail continues to dominate the intercity rail passenger sector. It accounted for 92 per cent of total passenger revenues in 2004. CN (former Algoma Central Railway services), Ontario Northland and the Quebec North Shore & Labrador provide the balance of intercity rail passenger services. The Great Canadian Railtour Company provides seasonal services between Vancouver and Calgary and Jasper. The American corporation Amtrak offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail).

EMPLOYMENT

Employment in the rail sector has been declining significantly over the past 15 years, from more than 67,000 in 1990 to about 36,000 in 2004. This averages out to a 4.5 per cent decrease per year. Employment at Class I carriers dropped 49 per cent or 4.7 per cent per year over this period. Employment at regional carriers fell 5.5 per cent per year, from 5,600 to 2,500 employees. This was due in part to CN's takeover of Algoma Central. By contrast, employment at shortline carriers increased 9.7 per cent per year, from 550 to just over 2,000 employees. The relative levels of employment in each class of carrier are consistent with these changes. From 1990 to 2004, the Class I carriers dropped from 91 per cent to 87 per cent of total rail industry employment while the regional carriers dropped from 8.4 per cent to 7.2 per cent. As would be expected, shortline employment grew from a virtually non-existent proportion to about 5.8 per cent of total rail industry employment.

2 Regional railways are larger carriers that operate over relatively long distances and whose traffic consists mainly of natural resources.

3 2002 was the final year that Algoma Central was recognized as a separate entity for operating and financial reporting purposes. All reporting has now been integrated under CN Rail.

Table 6-4 compares the level of employment in the rail industry in 2003 and 2004. Addendum Table A6-4 shows further details.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2003 AND 2004

	2003	2004
Class 1	31,595	30,966
Regional ¹	2,773	2,550
Shortline ¹	2,029	2,047
Total	36,397	35,563

Note: Totals may not add up due to rounding.

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

From 1990 to 2004, Class I carriers, including VIA Rail, significantly increased their fuel efficiency. This is explained by comparing fuel consumption and output. As Addendum Table A6-5 shows, fuel consumption by Class I railways, while still accounting for 92 per cent of total sector fuel consumption in 2004, is comparable to that of 1990. However, as Addendum Table A6-6 shows, output in terms of revenue tonne-kilometres (RTKms) increased by almost 40 per cent over the same period, from about 225 billion to 314 billion RTKms.

These efficiency gains are largely because CN and CPR made important investments in new locomotive replacement programs in the latter half of the 1990s. They also changed operating practices and reduced operations over low-density lines, which for the most part were transferred to other operators. Table 6-5 compares output in the railway sector in 2003 and 2004.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2003 AND 2004

	2003	2004
Class 1	293,870.6	313,654.4
Regional ¹	16,670.7	15,890.0
Shortline ¹	7,338.4	7,889.4
Total	317,879.7	337,433.8

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Table 6-6 compares fuel consumption in the railway sector in 2003 and 2004.

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2003 AND 2004
(Millions of litres)

	2003	2004
Class 1	1,801.5	1,895.1
Regional ¹	117.8	103.7
Shortline ¹	91.1	100.5
Total	2,010.5	2,099.3

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Until recent years, both fuel consumption and output of regional railways was relatively stable. Regional railways have surpassed Class I railways in fuel efficiency until recently, but this has been due largely to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway. Due to the nature of its operations, specifically the ability to run longer trains over a declining slope, the QNS&L has enjoyed fuel efficiencies almost double the industry norm.

FREIGHT TRANSPORTATION

Generally, the output of railways operating in Canada increased from 1990 to 2002. After CN experienced a four per cent decrease in revenue tonne-kilometres in 2003, down to 164 billion, it experienced a five per cent increase to 172 billion in 2004. CPR also experienced a significant increase in output, up 8.7 per cent to 140 billion revenue tonne-kilometres. Combined output of Class II carriers has been declining since 2000, from 30.7 billion tonne-kilometres to 24.0 billion tonne-kilometres in 2004.

From 1996 to 2000, movements of traffic forwarded to CN and CPR from Canadian Class II carriers increased. In 2001, however, these movements decreased slightly, to 18.5 million tonnes, due mainly to a drop in coal traffic from BC Rail. Since then, this traffic has generally continued to decrease, down to 16.3 million tonnes in 2004, largely as a result of CN's takeover of both Algoma Central and BC Rail. After a large jump in 1998 of Class II carrier traffic received from CN and CPR, this amount has fluctuated slightly around an average of 8.1 million tonnes. Traffic originating on a Canadian Class II carrier, forwarded to CN or CPR and then forwarded to another Canadian Class II carrier to be terminated also increased drastically in 1998 and had remained steady around 0.5 million tonnes. In 2004, however, this traffic decreased to 0.39 million tonnes. Because it involves a bridge movement over CN or CPR, the latter traffic has both a forwarded and received component and would be double-counted if included in either forwarded or received traffic. Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1994.

Based on three quarters of data for 2005, CN and CPR output is expected to increase to 203 and 145 billion tonne-kilometres, respectively.

RAIL FREIGHT TRAFFIC — COMMODITIES

As Addendum Table A6-9 shows, annual rail loadings increased four per cent in 2005 to reach 284 million tonnes (not including receipts from U.S. connections). Volumes increased almost five per cent in western Canada to 157 million tonnes and four per cent in eastern Canada to 128 million tonnes. Coal, fertilizer materials, forest products and grain were the main commodities loaded in western Canada, while iron ore, other ores and mine products, forest products and intermodal shipments dominated in eastern Canada.

GRAIN

After large decreases in 2002 and 2003 to 22 million tonnes, grain shipments increased in 2004 and remained steady in 2005 near 27 million tonnes. However, these shipments are still well below the 35 to 40 million tonnes shipped in the early 1990s.

COAL AND COKE

Shipments of coal and coke fell sharply in 2003 to 31.8 million tonnes, increased slightly in 2004 to 33.1 million tonnes, and then increased again in 2005 to 35 million tonnes. This is just below the average of 38 million tonnes loaded since 1992.

FOREST PRODUCTS

Shipments of non-processed forest products fell to just over 16 million tonnes in 1998 and then remained steady until 2002 when they increased to 19 million tonnes. They fell again slightly to 17.5 million tonnes in 2003, held at 17.8 million tonnes in 2004 and increased slightly to 18.0 million tonnes in 2005. Shipments of processed forest products, by contrast, have been increasing since 1998. In 2005, volumes increased 16 per cent to almost 32 million tonnes. The net result has been a relatively stable volume of forest products, hovering around 40 million tonnes, until 2002, when loadings reached 45 million tonnes. After only slight changes in 2003 and 2004, total loadings of forest products increased again in 2005 to reach almost 50 million tonnes.

ORES AND MINE PRODUCTS

Shipments of iron ore peaked at 39 million tonnes in 1997. After a large decline in 2001 and an iron ore workers strike in 2004, shipments have remained relatively steady near 30 million tonnes, increasing only slightly in 2005 to 32 million tonnes.

Since 2000, shipments of other ores and mine products have remained steady near 25 million tonnes. In 2005, these shipments increased two per cent to 25.9 million tonnes.

FERTILIZER MATERIALS

Shipments of fertilizers have fluctuated since 1992, but have been increasing since 2001. They rose significantly in 2004 to 30.7 million tonnes and held steady in 2005 at 30.1 million tonnes.

INDUSTRIAL PRODUCTS

After reaching a 13-year peak in 2004, shipments of chemicals decreased just four per cent to 15.3 million tonnes in 2005. Continuing with a steady increase, shipments of metals rose almost four per cent to 12.2 million tonnes. For the second year in a row, shipments of automobiles and parts decreased, down almost six per cent to 4.9 million tonnes in 2005. After doubling in 1998, shipments of petroleum products have increased each year, reaching 14.5 million tonnes in 2005.

INTERMODAL

CN and CPR intermodal tonnage grew by 12.1 million tonnes from 1996 to 2004, an average annual growth rate of 6.5 per cent. Domestic North American traffic fell slightly in 2004, lowering the average annual eight-year growth rate to 7.3 per cent. Overall marine-rail intermodal traffic, however, increased for the third year in a row, resulting in average annual growth rates of 3.5 per cent for marine-rail exports and 8.8 per cent for marine-rail imports over the same period. Addendum Figure A6-1 shows these intermodal traffic trends. Growth in total rail intermodal volumes was most significant between 1998 and 1999, at 12.6 per cent. From 2003 to 2004, growth was three per cent, reaching 30.4 million tonnes. Figure A6-2 in the Addendum shows the origin and destination of CN and CPR intermodal traffic. As seen in Addendum Figure A6-3, the share of domestic North American intermodal traffic in 2004 dropped to 41.4 per cent, contrary to 2003, while the share of both rail-marine exports and imports increased.

As Addendum Figure A6-4 shows, the market share of containers on flat cars (COFC) continued to increase in 2004, accounting for more than 94 per cent of total intermodal volumes. This is up considerably from 77 per cent in 1996. This increase was balanced by a proportionate decrease of trailer on flat car (TOFC) volumes.

RAIL FREIGHT TRAFFIC BETWEEN CANADA AND THE UNITED STATES

Addendum Table A6-10 shows volumes of rail export and import by commodity since 1996. Export rail tonnage in 2005 totalled 76.4 million tonnes, 0.3 per cent less than in 2004. At 29.9 million tonnes, a 6.6 per cent increase, forest products were again the largest contributor to export tonnage. Chemical exports remained the same at 12.5 million tonnes, while exports of fertilizer materials increased 2.6 per cent to 9.5 million tonnes. Exports of iron ore fell 188,500 tonnes, the third consecutive decrease; however, these movements by rail are still above the norm. Metals experienced the largest increase, up almost 15 per cent to 5.6 million tonnes; this is just above the nine-year average of 4.1 million tonnes. By contrast, grain exports fell 14 per cent to 4.0 million tonnes, just below the nine-year average of 4.2 million tonnes.

Addendum Table A6-11 shows the values of rail exports and imports by commodity since 1996. Automotive has consistently been the largest contributor to these totals, accounting for 45.5 per cent in 2005. Forest products followed at 18 per cent. Automotive exports decreased nine per cent to \$34.7 billion, while forest products remained steady at \$17.6 billion. Although other value export commodities of chemicals and metals increased, overall export value decreased two per cent to \$76.6 billion.

Ontario remained the largest contributor to rail export volume and value, originating 23 per cent of export volume (17.6 million tonnes) and 58 per cent of export value (\$44.5 billion) in 2005. However, these shares represent a 6.8 per cent and 8.5 per cent decline, respectively.

Alberta's contribution to rail exports increased from 1996 to 2004 before decreasing slightly in 2005 to 14.0 million tonnes. Nonetheless, it was still the second largest province of export by volume, accounting for 18.3 per cent of total exports in 2005. In terms of value, Quebec remains the second largest contributor to rail exports, accounting for 14 per cent and originating \$10.7 million, a 10.9 per cent increase from 2004.

Import rail tonnage was 24.6 million tonnes in 2005, nearly a 15 per cent increase. Chemicals accounted for almost 24 per cent of rail imports and remained steady at 5.8 million tonnes, making it the largest contributor. Metals, the second largest group, increased significantly for the second year in a row, up 24.5 per cent to 3.6 million tonnes. This accounted for 14.4 per cent of total rail imports.

Automotive imports remained just above one million tonnes in 2005 totalling 12.7 billion, a 3.4 per cent increase. Automotive remained the top commodity by import value, accounting for 46 per cent of total imports.

As Addendum Table A6-14 shows, Ontario cleared 48 per cent of imports, 11.9 million tonnes in total. Alberta and Quebec followed Ontario with 16.6 per cent (4.1 million tonnes) and 10.1 per cent (2.5 million tonnes) shares of import volume, respectively. These shares represent increases for all three provinces of clearance. In terms of value, Ontario was also the dominant province of clearance in 2005, with \$19 billion, a five per cent increase from 2004. This is evident in Addendum Table A6-15.

Addendum tables A6-16 to A6-19 give further details on exports and imports, including major commodities originating from and cleared in the provinces mentioned above.

BORDER CROSSING POINTS

As Addendum Table A6-20 shows, the main border crossing points for rail exports by volume in 2005 were Fort Frances and Sarnia, both in Ontario. They accounted for 20.2 per cent (15.4 million tonnes) and 16.2 per cent (12.4 million tonnes) of exports, respectively. Forest products and chemicals accounted for about 60 per cent of rail export volumes through these locations.

As Addendum Table A6-21 shows, the main border crossing points for rail exports by value in 2005 were Sarnia and Windsor. They accounted for 31.2 per cent (\$23.9 billion) and 21.8 per cent (\$16.7 billion) of exports, respectively. Automotive products accounted for about 70 per cent of rail export value at these locations.

Addendum Table A6-22 shows that Sarnia was also the leading border crossing point for import tonnage in 2005, accounting for 18.5 per cent of total rail import volume (4.6 million tonnes). Chemicals accounted for 41 per cent of rail imports through this city. Other major locations as ports of clearance included Toronto, Edmonton, Sault Ste. Marie and Montreal.

The value of imports cleared in Sarnia and Windsor increased about 36 per cent in 2005, to \$5.4 billion and \$5.3 billion, respectively. This placed Toronto as the third largest port of clearance for 2005, at \$4.0 billion. Automotive was the most valuable commodity group cleared at Sarnia and Windsor. Addendum Table A6-23 shows rail imports by value and port of clearance.

OVERSEAS TRADE

At 97.6 million tonnes in 2004, goods carried to and from Canadian ports by Class I railways was up significantly from the 83 million tonnes carried in 2003. Traffic in transit between Canada and the United States increased by 15 per cent to 6.3 million tonnes, the third consecutive increase. Addendum Table A6-24 shows fluctuations of rail-marine exports and imports since 1996.

Rail-marine exports originating in British Columbia increased by 29 per cent in 2004, due mainly to an increase in CPR's coal traffic and CN's movement of forest products from former BC Rail locations. Exports originating in Saskatchewan and Alberta also increased in 2004. These three provinces accounted for 82 per cent of total rail-marine exports in 2004. Addendum Table A6-25 shows rail-marine exports since 1996 for all provinces of origin and the United States.

After falling 11 per cent in 2003, rail-marine exports of coal traffic increased 6.6 per cent in 2004, to 26.7 million tonnes. While exports of grain jumped 31 per cent to 18.2 million tonnes, this was still considerably less than the average volume from 1996 to 2001 of 24.4 million tonnes. The third largest rail-marine export group, fertilizer materials, increased 30 per cent to 13.9 million tonnes, the largest volume reported within the nine-year series of data. Addendum Table A6-26 shows rail-marine exports by commodity since 1996.

Rail-marine imports by Class I carriers totalled 10.9 million tonnes in 2004, up 10.9 per cent from 2003. About 87 per cent (9.5 million tonnes) of these imports were intermodal.

Ontario and Quebec were again the main destinations of rail-marine imports in 2004, totalling 6.2 million tonnes, or 57 per cent of the total. This represented a 14 per cent increase over 2003. Rail-marine imports to the United States increased for the third year in a row, to 3.6 million tonnes, or 33 per cent of the total. Every other province of destination experienced an increase in rail-marine imports in 2004. Addendum Table A6-27 shows rail-marine imports since 1996 for all provinces of destination and the United States.

Although substantially less than intermodal traffic, forest products were the second largest commodity group for rail-marine imports in 2004, at 0.8 million tonnes. Imports of ores and mine products continued to decline, down five per cent to just under 0.2 million tonnes. Table A6-28 shows rail-marine imports by commodity since 1996.

PASSENGER TRAFFIC

There were almost 4.1 million intercity rail passengers in 2004, up slightly from 2003; however, total passenger-kilometres remained steady at 1.4 billion. VIA Rail carried 2.6 per cent more passengers (3.9 million in total) but travelled almost one per cent fewer passenger-kilometres (1.4 billion in total). Class II carriers carried 4.9 per cent fewer passengers in 2004 (0.16 million in total) and experienced a 19 per cent decrease in passenger-kilometres (44 million in total). Addendum Table A6-29 gives details of intercity rail passenger traffic for Class I and II carriers, including Algoma Central, Ontario Northland and the Quebec North Shore & Labrador Railway.

Total commuter rail traffic in Toronto, Montreal and Vancouver jumped 4.6 per cent in 2004 to 54.6 million passengers in total. Ridership increased again in 2005, to 56.2 million passengers. For both years, these changes reflect an increase for all three major commuter rail companies (Vancouver's West Coast Express, Toronto's GO Transit and Montreal's Agence Métropolitaine de Montréal). In 2005, GO Transit represented 70 per cent of commuter rail traffic, comparable to previous years. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

RAIL FREIGHT INDUSTRY

The revenues of CN and CPR operations in Canada grew by 7.5 per cent in 2004. This was up from the average yearly increase of three per cent from 1999 to 2004. Rail freight rates increased by an average 0.5 per cent in 2004 (as rates increased in nearly all commodities) compared with an estimated average annual decrease of 0.3 per cent over the 1999 – 2004 period. Overall demand for rail freight services in 2004 increased by 6.1 per cent, while demand for agricultural shipments increased by 11.3 per cent. Overall rail freight revenues increased by 7.7 per cent, with revenues from agricultural and other bulk shipments increasing by 11.8 and 16.1 per cent, respectively. Intermodal services accounted for an estimated 26 per cent of total freight revenues, compared with 22 per cent in 1999.

Productivity increased for the ninth year in a row, up 2.8 per cent in 2004. Since 2000, productivity gains have averaged 4.3 per cent a year. Continued increases in oil prices translated into an increase of 1.7 per cent in unit fuel costs. However, both labour and capital unit costs declined, resulting in an overall 4.7 per cent drop in unit costs in 2004. CN and CPR had a combined operating profit of \$1.72 billion in 2004, 18.6 per cent higher than in 2003. The operating ratio declined from 79.2 per cent to 77.2 per cent. The return on assets of the shortline railways declined to 7.3 per cent in 2004, following an increase in 2003. Addendum tables A2-61 to A2-64 provide more details on the railway industry.

VIA RAIL

VIA Rail's revenues increased for the eighth time in nine years, up an estimated 4.2 per cent in 2004. This increase can be attributed to increased prices of 4.6 per cent for the year, despite a marginal drop in demand (-0.3 per cent). After a decline in productivity in 2003, VIA Rail's total factor productivity increased by an estimated 3.2 per cent in 2004. Unit costs decreased by three per cent in 2004. Combined with a small decrease in output, this resulted in a 3.2 per cent drop in total costs. After a decline in the overall cost-recovery ratio in 2003, the ratio increased to 48.6 per cent in 2004, the highest ratio in any year other than 2002.

*A significant increase in for-hire trucking revenues was reported in 2004.
The earnings of urban transit operators increased in 2004 by 4.2 per cent.*

MAJOR EVENTS

NATIONAL HIGHWAY SYSTEM

At their September 22, 2005 meeting, the Council of Ministers Responsible for Transportation and Highway Safety adopted a criteria-based National Highway System (NHS) composed of three categories of route types: Core, Feeder, Northern and Remote. For each of these route categories, criteria and thresholds were developed and used in evaluating the eligibility of candidate routes. As a result of this decision, the length of NHS route network went from the 24,297 km established in 1988 to 38,021 km.

LEGISLATIVE AND REGULATORY CHANGES

Motor Vehicle Transport Act (MVTA), 1987 — Revisions to the MVTA received Royal Assent on June 14, 2001. The provinces and territories, who enforce the federal regulations under the MVTA, have been preparing to implement the changes. An Order, published in the *Canada Gazette* Part II, on June 29, 2005, fixed January 1, 2006, as the date the Act would come into force. The Act modernizes and streamlines the regulation of extra-provincial motor carrier (bus and truck) undertakings in Canada. The objective is to have a consistent national regime for motor carriers that is focussed on carrier safety regulation.

Motor Carrier Safety Fitness Certificate Regulations — These regulations, under the *Motor Vehicle Transport Act* (MVTA), provide a framework to enable provinces and territories to implement a safety rating system for extra-provincial motor carriers (bus and truck) that is consistent across Canada. These new regulations, which were

published in the *Canada Gazette* Part II on June 29, 2005, came into force on January 1, 2006. The new regulations specify how the provinces and territories will monitor the safety performance of all extra-provincial motor carriers licensed in their jurisdiction. Provinces would maintain a complete safety compliance profile of each motor carrier, using input from all jurisdictions in which those carriers operate.

Hours of Service Regulations — Revisions to the Federal Hours of Service Regulations for extraprovincial commercial vehicle (bus and truck) drivers was published in the *Canada Gazette* Part II on November 16, 2005, and came into force on January 1, 2007. The changes from the current regulations are the product of lengthy consultations with industry, the provinces and territories, and other stakeholders. The new rules provide significantly more opportunity for drivers to rest and will reduce the maximum daily driving time for truckers in a 24-hour period from 16 hours to 13 hours, or 19 per cent.

FUEL COSTS AND TRUCKING PROTESTS

The effects of rising fuel prices in 2005 were to a certain extent mitigated by the fact that many carriers, including owner-operators, had fuel cost escalation provisions built into their shipping contracts. In both Canada and the United States, owner-operator associations focussed on the issue, using the slogan: "Say no to cheap freight." In Quebec, the "Forum des intervenants de l'industrie du camionnage general," which reaches the owner-operator community in the province, disseminated useful information on contract pricing and fuel surcharges on its Web site.

Despite awareness and business education programs within the industry, two incidents were at least partially attributable to the rising cost of fuel: the withdrawal of services by truckers serving the port of Vancouver in July, and a highway blockade in New Brunswick in September. The protest in New Brunswick was directly and almost entirely a response to fuel costs. Local small truck operators blocked commercial traffic on the Trans-Canada Highway in the northwest part of the province and in several other locations in the same region in early September. The blockade was strongly opposed by the major trucking associations and by others. The protestors lifted the blockade after three days on September 9, 2005.

The origins of the Vancouver dispute were more complex, in part because the players were in both provincial (the majority) and federal jurisdiction. At the centre of the dispute were the drayage operators who move containers at the Vancouver ports. These are mainly small owner-operators with a history of uneasy relations with, among others, the ports and the brokers through which they contract their services. Remuneration and waiting times were among the long-standing issues for this group, and rising fuel prices, by further eroding their revenues, brought matters to a head. On June 27, 2005, a significant number of owner-operator truckers serving the Vancouver ports withdrew their services and effectively brought trucking operations at the major container terminals to a halt.

In response, on June 30, 2005, the federal and provincial labour ministers jointly appointed a veteran labour negotiator to mediate between the truckers and the trucking companies and brokers. On July 29, 2005, the mediator recommended that the parties accept a Memorandum of Agreement containing provisions relating to rates and dispute resolution. Simultaneously, the federal government, on the recommendation of the Minister of Transport, invoked section 47 of the *Canada Transportation Act* and issued an Order in Council effectively giving the Vancouver Port Authority and the Fraser River Port Authority the power to enforce the provisions of the Memorandum of Agreement through a licensing system. The Order in Council was also necessary to ensure that the parties to the Memorandum were not in violation of the provisions of the *Competition Act*.

The mediator also recommended that the federal and provincial governments establish a task force to examine the underlying causes of the dispute in order to establish a longer-term framework to avoid similar disruptions in future. The Minister of Transport appointed the task force on August 8, 2005, after consultation with the federal ministers of labour and industry and with the province of British Columbia. The mandate of the task force reflected the mediator's recommendations.

The task force issued interim and final reports on September 21, 2005, and October 26, 2005, respectively. The recommendations proposed a comprehensive range of measures for both the provincial and federal governments, as well as the ports of Vancouver and Fraser River, including options for continuing a licensing scheme and exemption from the *Competition Act*. Discussions between Transport Canada the province, and the ports of Vancouver and Fraser River were ongoing at the end of 2005 and, in order to maintain stability while the parties develop and implement a long-term framework, a new Order in Council was issued on October 27 for a further 90 days.

BUS INDUSTRY AND SAFETY FITNESS REGIME

Extraprovincial bus operators are among those subject to the safety fitness regime created by the amendments to the *Motor Vehicle Transport Act* that came into force at the beginning of 2006. Except for transit operators, bus companies will also be subject to the new hours of service regime.

There were few dramatic developments in the regulatory regime for the intercity and charter bus industry in 2005. The major exception was in July in Nova Scotia, where the Utility and Review Board revoked the licence of DRL Coachlines Ltd. after reviewing the carrier's safety performance. The board cited a "potential future risk to public safety" if the carrier continued to operate. DRL had provided scheduled service between Halifax and Yarmouth, as well as charter services to points in Nova Scotia and beyond. Suspending the operating licence of a scheduled carrier is a rare, if not unheard of, event in Canada. As such, the action of the Nova Scotia Utility and Review Board attracted attention nationally.

INFRASTRUCTURE

NATIONAL HIGHWAY SYSTEM (NHS)

On September 22, 2005, the Council of Ministers Responsible for Transportation and Highway Safety endorsed the recommendations made by the National Highway System Task Force of a criteria-based National Highway System composed of three categories of route type: Core; Feeder; and, Northern and Remote. As a result of this decision, the NHS encompasses 38,021 km of key linkages:

<i>Jurisdiction</i>	<i>Core Routes</i>	<i>Feeder Routes</i>	<i>Northern and Remote Routes</i>	<i>Total</i>
Yukon	1,079 km	-	948 km	2,027 km
Northwest Territories	576 km	-	847 km	1,423 km
Nunavut	-	-	-	-
British Columbia	5,861 km	447 km	724 km	7,032 km
Alberta	3,970 km	217 km	197 km	4,384 km
Saskatchewan	2,450 km	-	238 km	2,688 km
Manitoba	982 km	742 km	370 km	2,093 km
Ontario	6,131 km	706 km	-	6,836 km
Quebec	3,448 km	766 km	1,436 km	5,649 km
New Brunswick	993 km	832 km	-	1,825 km
Prince Edward Island	208 km	188 km	-	396 km
Nova Scotia	903 km	296 km	-	1,199 km
Newfoundland and Labrador	1,008 km	298 km	1,163 km	2,469 km
Total	27,608 km	4,490 km	5,922 km	38,021 km

ROAD NETWORK

Beginning with this 2005 Transport Canada Annual Report, and from this point on, road length estimates will be based on information obtained from the National Road Network (NRN). The NRN is a detailed digital map of the public road network in Canada developed by Natural Resources Canada. The first national coverage was made available in March 2005 and represented the network as it existed in 2003. It can be downloaded for free at: <http://geobase.ca/geobase/en/search.do?produit=nrc1&language=en>.

The advantages of using the NRN as opposed to the source used in the past are:

- The NRN covers only the public road network in Canada making it more consistent with historical estimates of road length.
- The map is a non-proprietary source making it easier to share, upgrade and enhance.
- It has an estimate of the number of traffic lanes per road segment so that estimates of lane-kilometres and two-lane equivalent kilometres can be constructed.
- It identifies roads under provincial and local jurisdiction separately.
- The map has information on the type of surface (e.g., paved versus unpaved).

Table 7-1 shows that there were over one million two-lane equivalent lane-kilometres of public road in Canada (a lane-kilometre measures the number of lanes of traffic on each section of road; for example, if four lanes of traffic exist on a one-kilometre section of road, there are four lane-kilometres (i.e., four lanes x one kilometre). The same section also represents two kilometres of two-lane equivalent highway (i.e., four lane-kilometres divided by two).

TABLE 7-1: LENGTH OF PUBLIC ROAD NETWORK IN CANADA

	Length (two-lane equivalent thousand km)			Provinces Territories share of total (per cent)	Percentage distribution	
	Paved	Unpaved	Total		Paved	Unpaved
Newfoundland and Labrador	10.6	8.6	19.3	1.8	55.2	44.8
Prince Edward Island	4.3	1.8	6.0	0.6	70.8	29.2
Nova Scotia	18.1	9.0	27.1	2.6	66.8	33.2
New Brunswick	19.5	12.0	31.5	3.0	61.9	38.1
Quebec	81.5	63.2	144.7	13.9	56.3	43.7
Ontario	119.8	71.1	191.0	18.3	62.8	37.2
Manitoba	19.3	67.3	86.6	8.3	22.3	77.7
Saskatchewan	29.5	198.7	228.2	21.9	12.9	87.1
Alberta	61.7	164.6	226.3	21.7	27.3	72.7
British Columbia	48.2	22.9	71.1	6.8	67.8	32.2
Yukon	2.2	3.5	5.8	0.6	38.5	61.5
Northwest Territories	0.9	3.6	4.5	0.4	19.2	80.8
Nunavut	-	0.3	0.3	0.0	0.0	100.0
	415.6	626.7	1,042.3	100.0	39.9	60.1

Note: Estimates are not comparable with figures reported in previous annual reports.

Source: National Road Network (Edition 1.00)

Four provinces — Ontario, Quebec, Saskatchewan, Alberta — account for 75 per cent of the total length. Saskatchewan and Alberta account for half of the unpaved network (which represents three fifths of the total network length) while Ontario and Quebec account for nearly half of the paved network.

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

The trucking industry has a significant role to play in Canada's economy. The goods shipped by the for-hire carriers, private carriers, owner-operators and courier firms that make up the industry, range from raw materials, to components, and to final products. In total, the industry generated an estimated \$61 billion in revenues in 2004.

Trucking firms can be broken down in a number of different ways: the size of their fleet; the type of equipment they use; the geographic scope of their operations; the type of services they offer; and, the type of freight they carry. They can also be differentiated by jurisdiction of operations. Carriers that operate solely within a province fall within that province's jurisdiction. Carriers that provide interprovincial or international (extraprovincial) trucking services fall entirely within federal jurisdiction.

For-hire motor carriers are those that haul freight for others for compensation, offering either truckload (TL) or less-than-truckload (LTL) services, or a mix of the two. These carriers are further categorized according to the types of freight they carry, such as general freight, household goods, liquid and dry bulk, forest products, and other specialized freight. There were approximately 10,000 for-hire motor carriers in Canada in 2004, compared with 9,600 in 2003.

The top 10 for-hire trucking companies,¹ based on total number of fleet units (straight trucks, tractors and trailers) in Canada, remained unchanged in 2005 over the previous year. They include TransForce Income Fund, Montreal, Quebec, with 12,183 units; Trimac Transportation Services, Calgary, Alberta, (8,803 units); Vitran Corporation, Toronto, Ontario, (6,682 units); TransX, Winnipeg, Manitoba, (4,698 units); SLH Transport, Kingston, Ontario, (4,622 units); Challenger Motor Freight, Cambridge, Ontario (4,588 units); Robert Transport/Groupe Robert, Boucherville, Quebec, (4,285 units); Mullen Transportation

Inc., Aldersyde, Alberta, (4,026 units); Paul's Hauling Group, Winnipeg, Manitoba, (3,945 units); and Contrans Income Fund, Woodstock, Ontario, (3,400 units).

In 2005, there were some changes in the industry (acquisitions, strategic alliances and mergers of motor carriers).² Canada's largest for-hire trucking operation, TransForce Income Fund of Montreal, was very active, acquiring 13 other firms during the year. The Fund acquired Groupe 2 B Inc., Rebel Transport Ltd., Express Golden Eagle Inc. and Le Groupe Fortier in the last quarter of 2005. More recently, it completed the acquisition of Alberta-based Kos Corp. Oilfield Transportation Ltd. Kos offers a wide range of transportation services to the energy industry in western Canada. As for Trimac Transportation Services, Canada's largest provider of bulk trucking services, there was the formation of the Trimac Income Fund in February 2005 and a re-organization of the firm into Canadian and U.S. operating entities. Vitran Corporation consolidated its U.S. operations with the acquisition in 2005 of Chris Truck Line, a regional LTL freight carrier based in Kansas, with operations in the midwestern and southwestern U.S. More recently, it acquired Sierra West Express Inc., a regional LTL freight carrier based in Nevada, with operations in the western United States. The Mullen Group made a number of acquisitions during the year, including TL/LTL carriers in British Columbia and Winnipeg. Mullen also strengthened its position in the oilfield services sector through acquisition of Schmidt Drilling, Pe Ben Oilfield Services, Spearing Service Limited and Burnell Contractors Limited, all of which are Alberta-based. Contrans Income Fund divested its school bus assets in the course of the year, and acquired two flatbed trucking operations in Ontario, L.A. Dalton Systems and Hopefield Trucking Limited.

Owner-operators operate as small independent for-hire truckers. They own and drive their own trucks, hauling trailers for other carriers or directly for a shipper. There were an estimated 36,000 owner-operators in Canada in 2004, compared with 35,100 in 2003. Using owner-operators allows a trucking company to expand or contract their capacity in response to changing market conditions.

Couriers and parcel-delivery firms operate trucks and provide some of the same services as for-hire carriers and are therefore considered to be part of trucking activity. However, most companies use small cube vans, automobiles and even bicycles for deliveries. There are relatively few trucks — approximately 2,000 — used in the courier industry. Operations include same-day messenger

1 Today's Trucking, March 2005.

2 Globe and Mail, globeinvestor.com, press releases February and March 2006.

delivery and overnight or later delivery. In 2004, the courier industry generated an estimated \$6.0 billion in total revenues, based on average volumes of 2.4 million packages per day. There are approximately 17,000 small courier companies that generate revenues less than \$1 million annually. The companies account for 97 per cent of the total number of courier companies yet account for only 14 per cent of total courier revenues.

Private trucking includes companies that primarily haul their own freight but occasionally haul goods for others for compensation. It is not covered by the for-hire segment. Because these trucks are operated by someone working for an industry other than for-hire trucking, the value of their services is captured under some other, non-trucking part of the national accounts (e.g., farming or manufacturing). Most companies that haul their own products in trucks they own do not record revenues for this operation. At \$27.0 billion, the estimate for private trucking is better viewed as the operating costs of trucks for these companies. However, caution should be exercised when using this estimated value. To estimate the value of private trucking in 2004, the percentage increases/decreases in the for-hire sector since 1998 were applied to the value of private trucking as calculated in the January 1998 study *Profile of Private Trucking in Canada*.

Other includes that part of the industry that uses trucks for things other than hauling freight commercially. For example, municipal governments run some of the largest fleets on the road, using trucks as platforms for specialized equipment, such as garbage packers, tree-trimmers, cranes or snowplows, and construction companies use trucks and trailers to transport heavy machinery between job sites.

The annual number of business bankruptcies in the trucking industry has decreased steadily in last five years. The 506 bankruptcies in 2005 was the lowest number since 1998. The number of trucking bankruptcies decreased 9 per cent in 2003, 19 per cent in 2004 and 14 per cent in 2005. These decreases are more pronounced than those observed for other sectors of the economy. Addendum Table A7-1 shows the number of trucking bankruptcies compared with the economy by region from 1990 to 2005.

In terms of revenues, general freight carriers continue to dominate the for-hire sector, accounting for almost 60 per cent of for-hire revenues in 2004. Specialized freight accounted for 17 per cent of total revenues. Table 7-2 compares the revenues of all for-hire trucking firms by the type of freight carried from 2000 to 2004.

TABLE 7-2: FOR-HIRE CARRIER REVENUES BY ACTIVITY SECTOR, 2000 – 2004

(Millions of dollars)						
Activity Sector	2000	2002	2004 ¹	Share in per cent of total		
				2000	2002	2004
General freight	12,953	13,957	16,553	58.6	59.1	58.2
Movers	794	693	857	3.6	2.9	3.0
Liquid bulk	1,773	1,932	2,359	8.0	8.2	8.3
Dry bulk	1,557	1,602	2,236	7.0	6.8	7.9
Forest products	1,214	1,246	1,420	5.5	5.3	5.0
Other specialized freight	3,812	4,179	5,020	17.2	17.7	17.6
Total	22,103	23,609	28,447	100.0	100.0	100.0
(Estimated number of carriers)						
Activity Sector	2000	2002	2004 ¹	Share in per cent of total		
				2000	2002	2004
General freight	3,248	3,416	3,642	34.9	35.3	36.1
Movers	374	545	588	4.0	5.6	5.8
Liquid bulk	692	799	782	7.4	8.3	7.7
Dry bulk	1,666	1,486	1,546	17.9	15.3	15.3
Forest products	1,252	904	907	13.4	9.3	9.0
Other specialized freight	2,085	2,532	2,631	22.4	26.2	26.1
Total	9,317	9,682	10,096	100.0	100.0	100.0

Note: Including motor for-hire carriers of freight earning annual revenues of \$30 thousand or more.
1 Small for-hire carriers estimated for 2004.

Sources: Transport Canada, based on Statistics Canada, *Quarterly Motor Carriers of Freight Survey (QMCF)* (2000-2004) and *Annual Motor Carriers of Freight Survey (small for-hire carriers)*, Service Bulletin Cat. 50-002

TABLE 7-3: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIERS, 2000 – 2004

Year	Small Carriers (Less than \$1 million)		Medium Carriers (\$1 – 12 million)		Large Carriers (\$12 – 25 million)		Top Carriers (Over \$25 million)		Grand Total Revenues (Millions of dollars)
	Revenues (Millions of dollars)	Share (per cent of total)	Revenues (Millions of dollars)	Share (per cent of total)	Revenues (Millions of dollars)	Share (per cent of total)	Revenues (Millions of dollars)	Share (per cent of total)	
2000	1,366	6.2	9,514	43.0	4,660	21.1	6,562	29.7	22,103
2001	1,512	6.3	11,277	47.1	4,506	18.8	6,662	27.8	23,958
2002	1,586	6.7	10,073	42.7	5,091	21.6	6,859	29.1	23,609
2003 ¹	1,590	6.5	9,967	41.0	5,561	22.9	7,186	29.6	24,304
2004 ¹	1,800	6.3	11,964	42.1	7,292	25.6	7,391	26.0	28,447

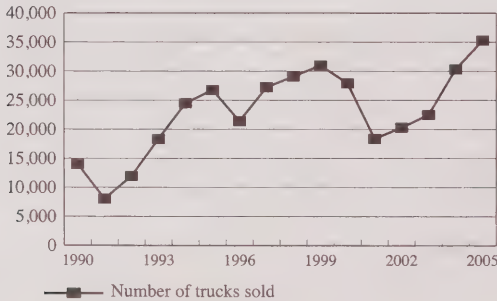
Note: Including motor for-hire carriers of freight earning annual revenues of \$30 thousand or more.
¹ Small for-hire carriers revenues estimated for 2003 and 2004.

Sources: Transport Canada, based on Statistics Canada, *Quarterly Motor Carriers of Freight Survey (QMCF) (2000-2004)* and *Annual Motor Carriers of Freight Survey (small for-hire carriers), Service Bulletin Cat. 50-002*

Table 7-3 shows total for-hire trucking revenues by size of carrier from 2000 to 2004, as measured by four categories of earned annual revenues: less than \$1 million; \$1 million to \$12 million; \$12 million to \$25 million; and \$25 million or more. Total revenues have almost tripled since 1991; the proportion of revenues for large carriers (earning between \$12 million and \$25 million), however, has increased, from 11 per cent in 1991, 21 per cent in 2000 to almost 26 per cent in 2004. Addendum Tables A7-2 and A7-3 show the same information over a longer time series.

Reported sales of Class 8 trucks³ fluctuate yearly, driven by a number of factors, including the profitability of carriers, carriers' fleet replacement policies, and the demand for trucking services. The demand for many trucking services tends to increase or decrease with market conditions; and swings in these market conditions tend to be exacerbated in the final demand for trucking services. Following the 2001 economic slowdown in both Canada and the U.S., truck sales in Canada have increased steadily each year to reach an all time record of 35,281 vehicles in 2005. Figure 7-1 shows the sales of Class 8 trucks from 1990 to 2005.

FIGURE 7-1: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2005



Source: Canadian Vehicle Manufacturers' Association

BUS INDUSTRY

It is difficult to categorize the service provided by the Canadian bus industry because of the variety of services offered and because individual operators and corporate owners commonly provide services in several of the recognized categories.⁴ For example, Laidlaw International Inc. is simultaneously a major school bus operator and, as Greyhound, the largest scheduled intercity service provider in Canada and the United States. Most bus operators in all categories offer some form of charter bus service.

Scheduled Intercity Service — Intercity bus service links all Canadian provinces and territories except Nunavut. The largest operator in Canada is Greyhound and its subsidiaries, which, as noted, are owned by Laidlaw. Greyhound primarily operates in Ontario and the four western provinces. Groupe Orléans is the major service provider in Quebec and the Maritime Provinces, operating as Orléans Express in Quebec and Acadian in the Maritimes. There are a number of smaller regional and local carriers, particularly in Quebec.

Charter, Tour, Shuttle and Other Commercial Services — These are a diverse group of services. Charter and tour operators primarily serve the discretionary travel market. Airport service is one of the most common forms of shuttle busing. Other commercial services include contracting busing, where the carrier provides regular service to a particular group, commonly workplace travel paid for by the employer. Some larger companies provide other services in addition to all these, Pacific Western Transportation Ltd. being the most prominent example. Other companies, such as Brewster Transportation & Tours and Coach Canada, concentrate on the charter/tour market. Pacific Western and Coach Canada also offer scheduled service in Alberta and Ontario, respectively.

3 Class 8 includes trucks with a gross vehicle weight exceeding 15,000 kilograms.

4 The North American Industrial Classification System (NAICS) has been used in Canada since 1997. The bus industry is grouped under six headings: urban transit systems; interurban and rural bus transportation (scheduled intercity); school and employee bus transportation; charter bus industry; other ground passenger transportation (shuttle); and scenic/sightseeing transportation.

School Service — School bus carriers transport students to and from school. While some school administrations in Canada provide this service directly, most contract it out to private operators. Besides Laidlaw, the larger school bus operators include First Bus, Pacific Western and Stock Transportation. Most school bus operators also provide some charter service.

Urban Transit Service — Over 90 cities, towns, regional municipalities and other urban entities in all Canadian provinces and two of the territories have transit service. Overall, the industry serves more than 20 million Canadians, using buses, coaches, trolleys, streetcars, light and heavy rail, and vans and taxis. Some urban transit operators offer school bus and charter services as well as dedicated services to persons with disabilities.

BUS TRANSPORTATION

The Canadian bus industry is made up of approximately 1,500 operators that collectively move more than 1.5 billion passengers each year. In 2004, the bus industry generated an estimated \$7.7 billion in total revenues,⁵ including government operating and capital contributions. This industry can be looked at either by “segment” (i.e., by main company activity as classified under NAICS), or by “service lines” (or service activities) performed.

Bus segments (NAICS) — In 2004, urban transit was by far the largest sector, with close to 67 per cent of total industry revenues, including government contributions (or 49 per cent of total revenues excluding government contributions). Operating and capital contributions from governments accounted for 53 per cent of urban transit operators’ total revenue. Urban transit operators are typically dedicated to transit operations, with only a fraction of their revenues coming from other service lines.

The “school bus” sector ranked second with approximately 25 per cent of total bus revenues (excluding government contributions), followed by intercity operators and charter/tour operators. Almost all of these operators, regardless of their primary business, provided other service lines, demonstrating the varied nature of the industry.

Service Lines — Over the past number of years, industry diversification, mergers and acquisitions as well as consolidated reporting, have clouded the industry sectors. This has rendered the “segment” approach to evaluating the industry less reliable.⁶ Analysis by “service line” gives a better indication of activity in the industry. Overall, the industry has grown from \$5.5 billion in 1997 to \$7.7 billion in 2004, an average annual growth of slightly more than five per cent. However, this growth was unevenly distributed among service lines, averaging between no growth for “other passenger revenues” and 7.9 per cent for “charters, shuttle and sightseeing” services, the best performance of any of the service lines during this period.

Service line revenues have been somewhat higher since 2001 due to a new bus survey that captured a larger number of companies.⁷ In terms of passengers carried, urban transit services (including urban transit operators and other operators offering transit services) carried an estimated 1,700 million passengers in 2004, a 2.5 per cent increase over 2003. As for intercity services, Transport Canada estimated that 15.5 million intercity passengers were carried in 2004, a 10 per cent increase over the 2003 total. This increase shows a return to the 2002 levels, a recovery from events in 2003⁸ that affected tourism in Canada. Table 7-4 shows bus revenues by service lines from 1997 to 2004.

URBAN TRANSIT

In 2004, urban transit operators earned \$5.2 billion, 4.2 per cent more than in 2003. Government contributions remained the main source of revenues, accounting for 53 per cent of total urban transit revenues. Urban transit services followed with 44 per cent. From 1996 to 2004, government contributions increased on average by 3.8 per cent annually. Over the same period, urban transit systems’ operating revenues grew by 5.2 per cent annually. As a result, the government’s contribution to total urban transit revenues decreased from 56 per cent to 53 per cent. Addendum Table A7-4 shows revenue services offered by urban transit operators from 1996 to 2004. Figure 7.2 illustrates revenue sources for urban transit operators in 2004.

5 Estimates of the bus industry revenues are by Transport Canada as Statistics Canada passenger bus and urban transit survey results for 2004 were not released (under revision).

6 For example, from 1995 to 2000, the “segment” approach did not adequately measure the bus industry, as some scheduled intercity carriers were recorded under school bus operators due to consolidated financial reporting coming from mergers and acquisitions. This was one of many factors that triggered the redesign by Statistics Canada of a new passenger bus survey (implemented in 2001) to collect both industry and activity data.

7 From 1994 to 2000, the passenger bus and urban transit survey covered companies having annual gross revenues of \$200,000 or more. Starting in 2001, however, the new passenger bus survey has covered all companies that have at least one bus establishment engaged in the provision of bus and urban transit services.

8 The SARS (Severe Acute Respiratory Syndrome) crisis in spring 2003, the conflict in Iraq, and the power blackout in August 2003 affecting the north-eastern United States and southern Ontario were some of the events that affected business and tourism travel.

TABLE 7-4: BUS INDUSTRY REVENUES BY SERVICE LINES, 1997 – 2004

	(Millions of dollars)							
	1997	1998	1999	2000	2001 ¹	2002	2003 ²	2004 ³
Number of companies	877	1,110	1,062	968	1,813	1,715	1,497	1,500
Business Lines								
Urban transit services	1,672	1,694	1,817	1,956	2,092	2,234	2,317	2,500
School bus transportation	826	894	915	964	1,112	1,220	1,233	1,250
Charters, shuttle & sightseeing services	316	369	352	449	469	506	552	540
Scheduled intercity services	241	240	236	271	332	329	319	370
Other passenger/operating revenues	191	216	219	225	246	283	197	190
Parcels express delivery	79	87	88	96	98	100	101	105
Total (excluding government contributions)	3,326	3,499	3,627	3,961	4,349	4,672	4,719	4,955
Government contributions ⁴	2,137	2,386	2,562	2,271	2,355	2,440	2,774	2,780
Total	5,463	5,885	6,189	6,231	6,703	7,112	7,493	7,735

1 From 1997 to 2000: Includes bus operators with annual revenues greater than \$200,000. Starting 2001, a new "Passenger bus and urban transit" survey was initiated by Statistics Canada covering a greater number of bus companies (no threshold revenues).

2 Preliminary data for 2003.

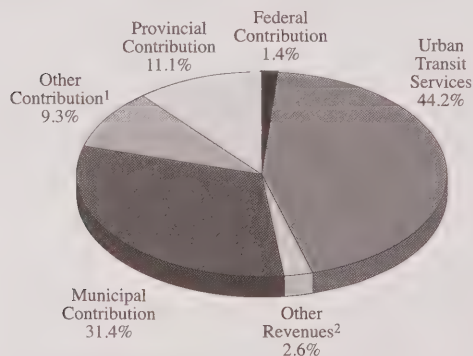
3 Data estimated by Transport Canada

4 Includes operating and capital government contributions for urban transit

Sources: Transport Canada, adapted from Statistics Canada, *Passenger bus and urban transit statistics*, Cat. 53-215, and Statistics Canada, *Service Bulletin*, Cat. 50-002; special tabulation based on NAICS and Canadian Urban Transit Association (CUTA).

In terms of passengers using urban transit, ridership levels decreased throughout the early 1990s to a low of 1,353 million passengers in 1996. With the exception of a small decrease in 2001, the number of passengers has since increased steadily to peak at 1,598 million passengers in 2004. This is the highest level in the last two decades. A similar pattern existed for distance travelled by urban transit vehicles. Vehicle-kilometres jumped from a low of 716.4 million in 1996 to a high of 887.1 million in 2004. This is an average annual increase of 2.7 per cent. For ridership and distance data over a longer period, see Table A7-5 in the Addendum. Figure 7-3 illustrates long-term trends in the urban transit sector from 1982 to 2004.

FIGURE 7-2: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2004



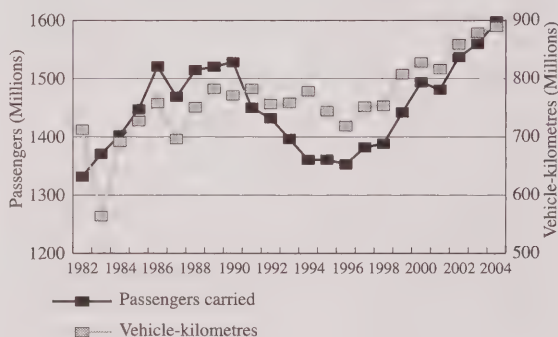
1 Other contribution includes dedicated taxes, transfers from regional agencies, Reserve Funds.

2 Other revenues include charter, school bus and other passenger bus services.

Source: Transport Canada tabulation, adapted from Canadian Urban Transit Association (CUTA) data.

In terms of vehicles, the urban transit fleet jumped from 13,049 to 15,236 units over the 1996 – 2004 period, an average annual increase of two per cent. The main change in the make-up of the fleet was the replacement of standard buses with more accessible, low-floor buses. Transit authorities used a total of 5,018 low-floor buses in 2004, up from 499 in 1996, representing an increase from five per cent of total standard motorbuses to 44 per cent. See Addendum Table A7-6 for details on urban transit fleet composition over this period.

FIGURE 7-3: LONG-TERM TREND IN URBAN TRANSIT, 1982 – 2004



Source: Statistics Canada, "Passenger bus and urban transit statistics", Cat. 53-215; special tabulations based on Canadian Urban Transit Association (CUTA) data

PASSENGER TRANSPORTATION

LIGHT VEHICLE FLEET AND USE

According to the 2004 Canadian Vehicle Survey, 17.7 million light vehicles were registered in the 10 provinces (data refer to in-scope vehicles with a gross weight less than 4,500 kilograms). Of this total, 10.1 million were classified as passenger cars and station wagons, 2.8 million vehicles were listed as vans, 1.3 million were classified as sport-utility vehicles, and 3.4 million vehicles were defined as pickup trucks. As a group, light trucks and vans represented nearly 43 per cent of the light vehicle fleet. As shown in Table 7-5, vans and light trucks were driven nearly 11 per cent more on average than passenger cars, amassing nearly 17,000 kilometres per year versus about 15,300 kilometres for cars and station wagons. Total vehicle-kilometres driven amounted to 154 billion for cars and station wagons (54 per cent) and 128 billion for vans and light trucks (45 per cent). Vans and light trucks also had slightly higher vehicle occupancies than passenger cars, accounting for nearly 48 per cent of light-vehicle passenger-kilometres. This equates to an average occupancy of 1.75 persons per light truck or van versus 1.57 for cars and station wagons.

TABLE 7-5: LIGHT VEHICLE FLEET STATISTICS, 2004

	Car / station wagon	Light trucks/vans				Other	Total light vehicles
		Van	Sport- utility	Pickup truck	Sub- total		
Vehicles (Millions)	10.1	2.8	1.3	3.4	7.6	0.1	17.7
Per cent share	56.9	16.1	7.5	19.2	42.8	0.3	100.0
Vehicle-km (Billions)	154.0	47.8	24.0	56.2	128.0	1.4	283.4
Per cent share	54.3	16.9	8.5	19.8	45.2	0.5	100.0
Passenger-km (Billions)	242.2	95.9	41.8	87.0	224.7	2.6	469.5
Per cent share	51.6	20.4	8.9	18.5	47.9	0.6	100.0
Litres of fuel (Billions)	14.4	6.2	3.2	7.9	17.2	0.1	31.7
Per cent share	45.2	19.4	10.0	24.9	54.3	0.5	100.0
Distance driven (Thousands of km)	15.3	16.8	18.1	16.5	16.9	23.2	16.0
Persons per vehicle	1.57	2.01	1.74	1.55	1.75	1.87	1.66
Fuel efficiency (L/100km)	9.3	12.9	13.1	14.1	13.5	10.6	11.2

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2004 Annual Averages

Heavier trucks and vans are much less fuel efficient than cars. Calculated fuel efficiency for cars and station wagons averaged 9.3 L/100 km, more than 30 per cent lower than the corresponding consumption rate of 13.5 L/100 km for vans and trucks.

The distribution of light vehicles, vehicle-kilometres, and passenger-kilometres by province/territory followed the distribution of population with few exceptions (see Table 7-6). In terms of motorization (number of vehicles per capita), most jurisdictions were clustered around the overall average of 555 vehicles per 1,000 population, except for Alberta, Saskatchewan and the Yukon with rates over 10 per cent higher, and Newfoundland and Labrador, the Northwest Territories and Nunavut with rates at least 13 per cent below average. Annual average vehicle use was 16,000 kilometres nationally, with a low of about 14,500 for Newfoundland and British Columbia to a high of 17,500 in Nova Scotia. Nunavut continued to average less than 9,000 kilometres per year. Average vehicle occupancies were bunched around the national average of 1.7 persons per vehicle. Average light vehicle fuel efficiency varied from a low of 10.3 L/100 km in Nova Scotia, Prince Edward Island and Quebec to 12.4 L/100 km in Saskatchewan and Alberta.

With changes to the trip log introduced in 2004, trip purpose has been revised to reflect origins and destinations visited rather than a stated reason for making the trip. The distribution of light vehicle travel by trip origin is presented in Table 7-7. Nearly half the vehicle-kilometres driven started at the driver's home. Commuting to the normal place of work accounted for nearly 15 per cent of the vehicle-kilometres, followed by trips to shopping centres or visits to someone else's home, each with about 8.5 per cent of the vehicle-kilometres. Trips to leisure-type destinations accounted for a little over five per cent of travel.

TABLE 7-6: LIGHT VEHICLE STATISTICS BY PROVINCE/TERRITORY, 2004

	Vehicles (Thousands)	Vehicle- kilometres (Billions)	Passenger- kilometres (Billions)	Litres of fuel purchased (Billions)	Vehicles per 1,000 population	Averages Average distance driven (Thousands)	Passengers per vehicle	Average fuel efficiency (L/100km)
Newfoundland and Labrador	247	3.6	6.2	0.4	477	14.5	1.7	10.9
Prince Edward Island	75	1.1	1.9	0.1	544	15.3	1.7	10.3
Nova Scotia	518	9.1	16.4	0.9	553	17.5	1.8	10.3
New Brunswick	437	7.1	12.0	0.8	581	16.3	1.7	11.4
Quebec	4,144	66.4	108.2	6.8	549	16.0	1.6	10.3
Ontario	6,599	112.4	184.3	12.5	532	17.0	1.6	11.1
Manitoba	609	8.8	15.9	1.0	521	14.5	1.8	11.5
Saskatchewan	635	10.0	17.3	1.2	639	15.8	1.7	12.4
Alberta	2,137	32.0	51.3	4.0	667	15.0	1.6	12.4
British Columbia	2,285	32.8	55.9	3.9	544	14.4	1.7	11.9
Yukon	23	0.4	N/A	N/A	760	17.1	N/A	N/A
Northwest Territories	19	0.2	N/A	N/A	449	12.4	N/A	N/A
Nunavut	3	0.0	N/A	N/A	99	8.9	N/A	N/A
Canada	17,733	284.1	469.5	31.7	555	16.0	1.7	11.2

Percentage distribution

Newfoundland	1.4	1.3	1.3	1.2	86.0	90.4	105.8	97.8
Prince Edward Island	0.4	0.4	0.4	0.4	98.1	95.7	102.1	92.1
Nova Scotia	2.9	3.2	3.5	2.9	99.6	109.1	109.3	92.4
New Brunswick	2.5	2.5	2.6	2.6	104.8	101.6	102.2	102.4
Quebec	23.4	23.4	23.0	21.5	99.0	100.0	98.6	91.9
Ontario	37.2	39.6	39.3	39.4	95.9	106.3	99.2	99.5
Manitoba	3.4	3.1	3.4	3.2	93.9	90.6	108.5	103.3
Saskatchewan	3.6	3.5	3.7	3.9	115.2	98.7	104.2	110.6
Alberta	12.1	11.3	10.9	12.5	120.3	93.4	97.1	111.4
British Columbia	12.9	11.6	11.9	12.4	98.1	89.7	103.1	106.9
Yukon	0.1	0.1	N/A	N/A	137.0	106.9	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	80.9	77.5	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	17.9	55.3	N/A	N/A
Canada	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Canadian Vehicle Survey, 2004 Annual Averages

TABLE 7-7: LIGHT VEHICLE VEHICLE-KM BROKEN DOWN BY TRIP ORIGIN, 2004

Place	Vehicle-km	Share (per cent)
Driver's home	132.3	46.7
Someone else's home	24.5	8.6
Driver's regular workplace	41.7	14.7
Another workplace	10.4	3.7
School/day care	4.2	1.5
Shopping centre/bank/other place of personal business	24.0	8.5
Medical/dental facility	3.8	1.4
Leisure/entertainment/recreational facility/restaurant	14.8	5.2
Gas station/rest stop	13.7	4.8
Other	14.0	4.9
Total	283.4	100.0

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2004 Annual Averages

If origin and destination are classified by primary purpose, the result is a different distribution (see Table 7-8). Work trips accounted for nearly 23 per cent of vehicle-kilometres while shopping trips accounted for over 13 per cent and leisure trips for 8.5 per cent. All other purposes account for 37 per cent of vehicle-kilometres with nearly 20 per cent of the travel unspecified round trips or tours from driver's home to driver's home.

TABLE 7-8: DISTRIBUTION OF VEHICLE-KM BY TRIP PURPOSE, LIGHT VEHICLES, 2004

Trips involving:	Vehicle-km	Share (per cent)
Work	65.0	22.9
Shopping	37.7	13.3
Leisure/entertainment	24.0	8.5
Other	104.1	36.7
Unspecified	52.7	18.6
Total	283.4	100.0

Notes: Figures exclude the territories.

Trips purpose is computed by adding up travel to each trip destination and all travel running from the destination to the driver's home (e.g., "Work" includes all vehicle-kilometres with work as the destination plus all vehicle-kilometres from work to the driver's home).

Unspecified refers to all trips where both the trip origin and destination was recorded as the driver's home.

Source: Canadian Vehicle Survey, 2004 Annual Averages

TABLE 7-9: LIGHT TRUCK STATISTICS, BY AGE OF TRUCK, 2004

	Vehicles		Vehicle-km		Litres of fuel consumed		Average distance driven	Fuel consumption ratio
	Millions	Share	Billions	Share	Billions	Share	(Thousands of km)	(L/100 km)
Less than 3 years	3.2	18.3	64.9	22.9	7.2	22.8	20.1	11.2
3-5 years	4.2	23.5	73.9	26.1	8.0	25.3	17.8	10.8
6-9 years	4.4	24.9	71.6	25.3	8.1	25.6	16.3	11.3
10-13 years	3.3	18.4	45.2	15.9	5.0	15.8	13.9	11.1
14+ years	2.6	14.9	27.8	9.8	3.3	10.5	10.6	12.0
Total	17.7	100.0	283.4	100.0	31.7	100.0	16.0	11.2

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2004 Annual Averages

According to Table 7-9, over 40 per cent of the light vehicle fleet was five years of age or less while about one third of the fleet was 10 years of age or older. Younger vehicles were driven more on average than older vehicles, ranging from about 20,000 kilometres per year for vehicles under three years old to 16,000 kilometres per year for vehicles six to nine years old to only 10,600 for vehicles 14 years or older. Average light vehicle fuel efficiency was very similar for all vehicles less than 14 years of age at a little over 11 L/100 km. Vehicles 14 years or older had a fuel consumption ratio seven per cent higher than the average.

4,500 kilograms. This fleet was split between 325,000 medium trucks weighing between 4,500 kilograms and 15,000 kilograms and 277,000 heavy or Class 8 trucks weighing over 15,000 kilograms. Three quarters of the Class 8 heavy truck fleet was concentrated in three provinces: Ontario with 37 per cent, Alberta with nearly 25 per cent and Quebec with 13 per cent. The medium truck fleet was concentrated in five provinces sharing about 90 per cent of the total. Over 20 billion vehicle-kilometres were performed in heavy trucks in 2004, versus about seven billion for medium trucks. The distribution of heavy truck vehicle-kilometres was even more concentrated in Ontario, Alberta, and Quebec with the three provinces accounting for over 80 per cent of the kilometres driven.

FREIGHT TRANSPORTATION

HEAVY TRUCK FLEET BY PROVINCE/TERRITORY

Information on the heavy truck fleet and its use characteristics can be found in the Canadian Vehicle Survey (see Table 7-10). In 2004, over 600,000 trucks were registered with a gross vehicle weight of at least

Given similar numbers of trucks and a huge difference in vehicle-kilometres, it was no surprise that average distance driven per truck was much greater for heavy trucks compared with medium trucks. On average, heavy trucks were driven nearly 75,000 kilometres per year, three and a half times greater than the 21,000 kilometres driven by medium trucks. The variation in heavy truck average distance driven by province was also substantial,

TABLE 7-10: HEAVY TRUCK FLEET STATISTICS BY PROVINCE/TERRITORY, 2004

	Vehicles (Thousands)		Vehicle-km (Millions)		Percentage distribution			
	Medium	Heavy	Medium	Heavy	Vehicles		Vehicle-km	
	Medium	Heavy	Medium	Heavy	Medium	Heavy	Medium	Heavy
Newfoundland and Labrador	3.7	2.7	47	118	1.1	1.0	0.7	0.6
Prince Edward Island	1.5	2.6	13	68	0.5	0.9	0.2	0.3
Nova Scotia	7.3	6.9	143	363	2.2	2.5	2.1	1.7
New Brunswick	5.6	3.9	102	123	1.7	1.4	1.5	0.6
Quebec	48.9	37.3	1,382	3,938	15.1	13.4	19.9	19.0
Ontario	73.0	102.9	1,675	7,986	22.5	37.1	24.1	38.5
Manitoba	9.4	14.2	136	1,462	2.9	5.1	2.0	7.1
Saskatchewan	34.4	23.4	372	1,132	10.6	8.4	5.3	5.5
Alberta	78.3	68.3	1,776	4,855	24.1	24.6	25.5	23.4
British Columbia	60.5	12.9	1,282	516	18.7	4.6	18.4	2.5
Yukon	1.2	1.2	22	108	0.4	0.4	0.3	0.5
Northwest Territories	0.6	1.0	8	61	0.2	0.4	0.1	0.3
Nunavut	0.2	0.1	3	1	0.07	0.04	0.04	0.00
Canada	324.5	277.3	6,960	20,730	100.0	100.0	100.0	100.0

Note: Medium trucks have a gross weight between 4.5 tonnes and 15 tonnes; heavy trucks have a gross weight of 15 tonnes or more.

Source: Canadian Vehicle Survey, 2004 Annual Averages

ranging from a low of 26,000 per vehicle in Prince Edward Island to 106,000 per vehicle in Quebec. Medium truck use across jurisdiction also had a wide range of variation from a low of only 9,000 in Prince Edward Island (6,000 in Nunavut) to over 28,000 in Quebec.

HEAVY TRUCK VEHICLE CONFIGURATIONS

Table 7-11 provides another view on the medium/heavy truck fleet based on truck configuration. The majority of trucks were classified as straight trucks (i.e., the power unit and the cargo area are combined in a single chassis) with 362,000 registered in the 10 provinces. About 175,000 trucks were classified as tractor-trailers (i.e., the power unit pulls the cargo area in a separate trailer), with the balance, about 60,000 vehicles, classified as other vehicles. While tractor-trailer combinations accounted for about 30 per cent of the fleet, they accounted for over 60 per cent of the truck vehicle-kilometres, or 17.1 billion. Once again, this pattern was the result of the massive difference in average distance driven per vehicle. Straight trucks were driven a little over 25,000 kilometres annually, while tractor-trailers were driven nearly 100,000 kilometres per year. Heavy truck fuel efficiency averaged about 32 L/100 km, with straight trucks averaging 29 L/100 km and tractor-trailers averaging 34 L/100 km (see Table 7-11).

Table 7-12 provides more detail on heavy truck vehicle configurations. Medium trucks were characterized by the straight truck configuration with 87 per cent of the kilometres driven using this format. Heavy trucks, by contrast, were dominated by various tractor-trailer combinations with the most popular being a tractor and one trailer (the conventional 18 wheeler), which accounted for two thirds of the heavy truck vehicle-kilometres. Straight trucks performed only 16 per cent of the heavy truck vehicle-kilometres.

Table 7-13 provides information on the typical uses of medium and heavy trucks. Medium trucks had many uses with 61 per cent of the vehicle-kilometres used for carrying goods or equipment, a traditional freight-hauling role, and 34 per cent devoted to non-freight carrying functions such as making service calls. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private "trucking" business. Of the 6.9 billion vehicle-kilometres driven in the 10 provinces, six per cent were done with empty trucks.

Heavy trucks were used predominantly for the conventional goods-hauling role with 75 per cent of the vehicle-kilometres used for carrying goods or equipment. Only 11 per cent were for other work purposes, and about 14 per cent of vehicle-kilometres were made with empty trucks.

TABLE 7-12: TRUCK VEHICLE-KM BY DETAILED CONFIGURATION, 2004

	Medium (per cent)	Heavy (per cent)
Straight truck	87.0	16.1
Tractor only	0.4	3.6
Tractor and 1 trailer	1.6	67.3
Tractor and 2 trailers	-	11.2
Tractor and 3 trailers	-	0.1
Other	11.0	1.7
Total vehicle-km (billions)	6.9	20.6

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

TABLE 7-13: USE OF HEAVY VEHICLES, 2004

	Medium trucks		Heavy trucks	
	Vehicle-km	Share (per cent)	Vehicle-km	Share (per cent)
Carrying goods/equipment	4,193	61	15,489	75
Empty	384	6	2,800	14
Other work purpose	2,350	34	2,271	11
Total	6,927	100	20,560	100

Notes: Figures are in billions and refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

TABLE 7-11: TRUCK STATISTICS, BY CONFIGURATION, 2004

	Vehicles		Vehicle-km		Fuel (litres)		Average distance driven (thousands of kilometres)	Fuel efficiency (Litres/100km)
	thousands	share	billions	share	billions	share		
Straight truck	362	60.7	9.1	33.3	2.6	29.9	97.9	28.7
Tractor-trailer	175	29.2	17.1	62.3	5.9	66.7	20.4	34.3
Other	60	10.1	1.2	4.5	0.3	3.4	46.0	24.1
Total	598	100.0	27.5	100.0	8.8	100.0		32.0

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes. Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

FOR-HIRE/PRIVATE OPERATION

Table 7-14 presents a breakdown of heavy truck activity by for-hire/private operation. For-hire trucking operators provide trucking services to other companies for profit while private operators typically haul their own goods (e.g., bakeries, beer companies). Owner-operators own their own truck and hire out trucking services to other individuals or companies for profit. They are similar to for-hire firms except on a much smaller-scale.

Private trucking is concentrated in short-distance movements using largely medium-sized trucks. Private firms operate over half of the medium trucks registered, 13 per cent are operated by for-hire firms and 18 per cent by owner-operators. Moreover, about 75 per cent of the fleet operated by private firms was medium-sized trucks. By contrast, private operators account for only 22 per cent of the heavy truck fleet, with for-hire operators accounting for 45 per cent and owner-operators accounting for about 25 per cent. Heavy trucks, accounting for three quarters of the total, dominate for-hire fleets. Overall, private truckers operated 39 per cent of the truck fleet, 28 per cent was operated by for-hire truckers, 21 per cent by owner-operators, and 12 per cent by other/unknown.

Vehicle use was dramatically different between the for-hire and private trucking sectors. About half the vehicle-kilometres were performed by for-hire operators, nearly one quarter by owner-operators and only one fifth by private operators. The average distance driven was tilted heavily in favour of for-hire operators: they drove over 80,000 kilometres per year versus private truckers who drove only 24,000 kilometres and owner-operators who travelled 53,000 kilometres. Heavy-class trucks run by for-hire companies logged nearly 100,000 kilometres in 2004, compared with only 40,000 for private trucking companies.

TABLE 7-14: HEAVY VEHICLE USE BY TYPE OF OPERATION, 2004

	Number of vehicles (thousands)			Vehicle-km (billions)			Average distance travelled (thousands of km)		
	Medium	Heavy	Total	Medium	Heavy	Total	Medium	Heavy	Total
For-hire	41	125	166	1.2	12.2	13.4	30.2	97.4	80.9
Owner-operator	59	67	125	1.6	5.1	6.6	27.0	75.7	52.9
Private	174	60	234	3.2	2.4	5.5	18.2	39.6	23.7
Other	49	24	72	0.9	1.0	1.9	19.1	41.4	26.4
Total	323	275	598	6.9	20.6	27.5	21.5	74.8	46.0
Per cent									
For-hire	12.7	45.4	27.7	17.8	59.2	48.8	140.6	130.3	175.8
Owner-operator	18.2	24.3	21.0	22.8	24.6	24.1	125.8	101.2	115.1
Private	54.1	21.8	39.2	45.9	11.5	20.2	84.9	52.9	51.5
Other	15.1	8.6	12.1	13.5	4.7	6.9	89.1	55.4	57.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes. Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

TRUCKING FREIGHT TRANSPORTATION

TRUCK TRAFFIC IN CANADA

At the time of publication of this report, no 2004 truck traffic data in terms of tonnes, tonne-kilometres and transportation revenue on an origin/destination basis was available. A new Trucking Commodity Origin and Destination (TCOD) Survey has been developed and put in place by Statistics Canada with 2004 as the reference. However, this data is not yet available to users. Trade data (value) was used to approximate truck traffic for 2004.

TRUCK TRAFFIC BY SECTOR

The most recent data available for domestic trade⁹ is from 2002. The value of goods traded at the domestic level by all modes was estimated to be approximately \$581 billion, including 77 per cent (\$448.7 billion) in the intraprovincial sector, while 23 per cent (\$132.1 billion) was recorded interprovincially. Ontario dominated trade within the provinces with goods traded worth \$181.4 billion or 40 per cent of total intraprovincial commodity trade. Quebec ranked second with a 21 per cent share, followed by Alberta at 17 per cent and British Columbia at 10 per cent.

9 Interprovincial trade flows are estimated using the provincial National Accounts Information System, which is based on inputs and outputs. Statistics Canada recently issued a new time series (1997-2002) based on the new North American Industry Classification System (NAICS), but this does not include a modal breakdown of the provincial trade flows.

TABLE 7-15: SHARE OF FOR-HIRE TRUCKING TRAFFIC IN DOMESTIC SECTOR, 2003

	(Millions tonnes)			
	<i>Intraprovincial</i>	<i>Interprovincial</i>	<i>Total</i>	<i>Share</i>
For-hire trucking	168.42	51.35	219.77	49.4
Rail	46.37	109.87	156.24	35.1
Marine	47.64	20.66	68.30	15.4
Air	N/A	N/A	0.45	0.1
Total	262.43	181.88	444.76	100.0

Source: Transport Canada, adapted from Statistics Canada, various publications

As the modal breakdown was not available from the "input-output" source, a rough estimate of the value of domestic trade carried by trucks could be derived from many sources, such as transportation surveys¹⁰ for various modes (tonnes) and the Canadian Vehicle Survey. As shown in Table 7-15, in 2003, Canadian for-hire trucks¹¹ carried over 60 per cent of total tonnage shipped intraprovincially, while the rail mode dominated at the interprovincial level with nearly 61 per cent of total tonnes shipped between provinces. For-hire trucking ranked second (28 per cent) interprovincially. The Canadian Vehicle Survey (CVS) also provided some estimates of vehicle-kilometres for all trucks weighing at least 4,500 kg broken down by sector. In 2003, approximately 68 per cent of all truck vehicle-kilometres were driven intraprovincially. As a result, it would be relatively safe to estimate that at least 50 per cent of domestic trade activity is related to trucks, and the percentage is probably higher as the traffic activity of private carriers, small for-hire carriers and owner-operators is not currently measured.

At the international level, international trade customs-based data provides the mode of transportation at the port of exit (export case) and at the port of clearance in the case of imports. In 2004 and 2005, Canada's total exports shipped by trucks totalled \$186.7 billion and \$188.8 billion, respectively. The U.S. was the final destination for the quasi totality of these exports by trucks. On the import side, the picture is more blurred, as the mode at the port of clearance is not necessarily the same as the mode at the port of arrival.¹² As a result, imports by trucks were slightly overestimated at \$219.9 billion in 2004 (\$215.6 billion in 2005). The U.S. was the country of origin for commodities shipped by truck amounting to \$162.6 billion in 2004 and \$164.5 billion in 2005.

COMMODITIES AND TRUCKING FLOWS

In domestic trade, the main commodity groups carried were construction materials valued at \$140.7 billion (24 per cent of total domestic goods trade in 2002), almost exclusively in the intraprovincial sector. Agricultural products ranked second at \$100.9 billion (17 per cent), followed distantly by primary metals, metal and mineral products (\$52.4 billion) and energy products (\$51.8 billion) each with a similar share of nine per cent. In both sectors (intraprovincial and interprovincial), Ontario, Quebec, Alberta and British Columbia dominated, capturing almost 80 per cent of all domestic trade activity for goods. The main interprovincial flow was the Quebec/Ontario route (both directions) accounting for \$41 billion worth of commodities or 30 per cent of total interprovincial trade. The Alberta/Ontario route (both directions) ranked second at \$16.6 billion (12 per cent). Tables A7-9 to A7-12 in the Addendum provides more details on commodity groups and interprovincial flows.

At the international level, five commodity groups represented almost 80 per cent of total exports by trucks in 2004. These were automobiles and transport equipment (\$42.1 billion), machinery and electrical equipment (\$34.4 billion), other manufactured products (\$34.4 billion), plastic and chemical products (\$18.2 billion) and base metals/articles of base metal (\$17.6 billion). The same commodities dominated in similar proportion in 2005. On the import side, the same five groups captured almost 88 per cent of total imports reported as truck-related. Machinery and electrical equipment ranked first accounting for \$64.1 billion in 2004, followed by automobiles and transport equipment (\$45.9 billion), other manufactured products (\$33.1 billion), plastics and chemical products (\$23.9 billion) and base metals/articles of base metal (\$15.9 billion). The picture was similar in 2005.

10 Quarterly For-hire trucking (Commodity Origin/Destination) survey (TOD); and other Statistics Canada surveys on the marine, rail and air modes.

11 Canadian-domiciled long-distance for-hire trucking firms with annual revenues of \$1 million or more.

12 In the case of imports, the mode of transport represents the last mode by which the cargo was transported to the port of clearance in Canada and is derived from the cargo control documents of customs. This may not be the mode of transport by which the cargo arrived at the Canadian port of entry in the case of inland clearance. This may, therefore, lead to some underestimation of Canadian imports by the marine and air transport modes.

TABLE 7-16: TWENTY LARGEST BORDER CROSSINGS FOR TRUCKS, 2001 – 2005

(Millions of truck movements)

2005 Rank	Port	Province	2001	2002	2003	2004	2005	2005 share (per cent)
1	Windsor - Ambassador Bridge	ON	3.24	3.32	3.25	3.37	3.45	25.8
2	Samia - Blue Water Bridge	ON	1.47	1.56	1.61	1.71	1.78	13.4
3	Fort Erie - Peace Bridge	ON	1.35	1.31	1.27	1.27	1.26	9.4
4	Niagara Falls - Queenston-Lewiston Bridge	ON	1.00	1.05	1.01	1.01	0.96	7.2
5	Lacolle	QC	0.79	0.78	0.77	0.78	0.76	5.7
6	Pacific Highway/Douglas	BC	0.79	0.78	0.75	0.75	0.73	5.5
7	Lansdowne - Thousand Island	ON	0.50	0.53	0.49	0.49	0.46	3.4
8	Emerson	MB	0.37	0.41	0.41	0.40	0.40	3.0
9	Windsor - Detroit-Windsor Tunnel	ON	0.32	0.32	0.33	0.29	0.31	2.3
10	Philipsburg	QC	0.30	0.31	0.32	0.34	0.30	2.2
11	Rock Island	QC	0.26	0.25	0.27	0.28	0.26	2.0
12	Coutts	AB	0.29	0.25	0.23	0.24	0.25	1.9
13	Aldergrove	BC	0.16	0.16	0.20	0.21	0.20	1.5
14	Woodstock	NB	0.16	0.17	0.15	0.15	0.14	1.1
15	North Portal	SK	0.13	0.12	0.12	0.12	0.13	1.0
16	Sault Ste. Marie	ON	0.13	0.13	0.12	0.13	0.13	0.9
17	Armstrong	QC	0.11	0.12	0.12	0.12	0.12	0.9
18	Huntingdon	BC	0.14	0.18	0.13	0.15	0.11	0.8
19	Osoyoos	BC	0.06	0.07	0.10	0.09	0.10	0.8
20	Milltown	NB	0.08	0.07	0.08	0.08	0.09	0.6
Top-20 crossings			11.64	11.89	11.72	11.97	11.93	89.4
All other crossings			1.54	1.57	1.47	1.48	1.41	10.6
Total			13.18	13.46	13.20	13.45	13.33	100.0

Note: Two-way traffic volumes were estimated by doubling one-way flows northbound into Canada.

Source: International travel section, Statistics Canada and other unpublished statistics

TABLE 7-17: TWENTY LARGEST BORDER CROSSINGS FOR CARS/OTHER VEHICLES, 2001 – 2005

(Millions of truck movements)

2005 Rank	Port	Province	2001	2002	2003	2004	2005	2005 share (per cent)
1	Windsor - Ambassador Bridge	ON	7.89	7.13	6.39	6.26	5.94	10.3
2	Fort Erie - Peace Bridge	ON	6.67	6.65	5.84	5.51	5.06	8.8
3	Windsor - Detroit-Windsor Tunnel	ON	7.62	6.87	6.34	5.77	4.99	8.7
4	Pacific Highway/Douglas	BC	5.49	4.76	4.71	4.86	4.92	8.6
5	Samia - Blue Water Bridge	ON	4.13	3.88	3.69	3.71	3.54	6.2
6	Niagara Falls - Queenston-Lewiston Bridge	ON	3.28	3.20	3.03	3.12	3.15	5.5
7	Niagara Falls - Rainbow Bridge	ON	4.17	4.10	3.32	3.28	3.13	5.4
8	Cornwall	ON	2.05	2.09	2.08	2.07	2.03	3.5
9	Lacolle	QC	1.90	1.96	1.88	1.87	1.69	2.9
10	Sault Ste. Marie	ON	2.07	1.82	1.60	1.56	1.68	2.9
11	St. Stephen	NB	1.60	1.33	1.37	1.46	1.53	2.7
12	Edmundston	NB	1.34	1.33	1.37	1.42	1.43	2.5
13	Boundary Bay	BC	1.48	1.35	1.44	1.45	1.38	2.4
14	Huntingdon	BC	1.31	1.15	1.12	1.12	1.11	1.9
15	Lansdowne - Thousand Island	ON	1.16	1.18	1.11	1.13	1.10	1.9
16	Aldergrove	BC	1.16	1.09	1.06	1.07	1.01	1.7
17	Rock Island	QC	1.16	1.10	1.04	1.05	0.99	1.7
18	Milltown	NB	0.76	0.71	0.73	0.79	0.82	1.4
19	Philipsburg	QC	0.88	0.88	0.82	0.82	0.80	1.4
20	Fort Frances	ON	0.77	0.77	0.78	0.74	0.73	1.3
Top-20 crossings			56.90	53.36	49.71	49.06	47.01	81.7
All other crossings			11.42	10.94	10.46	10.52	10.53	18.3
Total			68.32	64.31	60.17	59.57	57.53	100.0

Note: Two-way traffic volumes were estimated by doubling one-way flows northbound into Canada.

Source: International travel section, Statistics Canada and other unpublished statistics

The busiest transborder route was the Ontario/U.S. central region¹³ (both directions) accounting for \$171.5 billion in 2004 or 31 per cent of total Canada/U.S. trade, followed by the Ontario/U.S. south region (\$69.3 billion) and the Ontario/U.S. northeast region (\$51.5 billion). Almost 80 per cent of shipments in these three routes were carried by trucks. The same trends prevailed in 2005. Tables A2-5 and A7-12 in the Addendum provide more information on the routes and commodities carried.

CANADA–U.S. BORDER CROSSING ACTIVITY

Heavy truck activity across the Canada–U.S. border fell about one per cent in 2005, to 13.3 million two-way trips, the average level since 2001. Crossing activity remains below the 2000 peak for the fifth straight year. Car crossings were down another 3.4 per cent from last year to 57.5 million trips, the lowest level since 1986.

Tables 7-16 and 7-17 compare the level of heavy truck activity at the top 20 border crossings between 2001 and 2005.

PRICE, PRODUCTIVITY, FINANCIAL PERFORMANCE

TRUCKING INDUSTRY¹⁴

In 2003, the revenues of trucking firms rose by 6.7 per cent to reach \$21 billion, just below the annual average of 6.9 per cent from 1998 to 2003. Trucking rates increased on average by 2.9 per cent and output grew by an estimated 3.1 per cent, compared with a 4.3 per cent annual increase over the 1998 – 2003 period. Both domestic and transborder traffic rebounded from their 2002 decreases, jumping 0.8 and 4.5 per cent, respectively.

Total factor productivity in the trucking industry fell by 0.9 per cent in 2003. This second consecutive decrease in productivity has reduced annual productivity gains to less than one per cent over the 1998 – 2003 period. Unit costs rose by four per cent in 2003, higher than the 2.4 per cent average annual increase since 1998.

In 2003, the average industry operating ratio reached 94.9 per cent, slightly higher than the average ratio of 94.4 for the 1998 – 2002 period.

URBAN TRANSIT SYSTEMS

Autonomous revenues (excluding subsidies) of urban transit carriers rose by 6.2 per cent in 2004. Quebec carriers registered the strongest growth, at 8.5 per cent, despite a 1.2 per cent decline in passengers carried. The increase was achieved through a 10 per cent increase in average fares and a 1.7 per cent rise in non-passenger output. Overall, total transit output in Canada increased by 2.7 per cent while prices rose by 3.4 per cent.

Transit systems continue to be among the most labour- and capital-intensive of all transport industries, with these two factors of production representing 51 and 25 per cent, respectively, of total costs.

In 2004, total factor productivity of transit systems decreased by 0.9 per cent. Capital productivity rose by 0.2 per cent while labour productivity declined by 0.1 per cent. Energy efficiency declined by 4.3 per cent while the productivity of other variable factors of production fell by 3.9 per cent.

Transit costs per unit of output rose by 2.2 per cent in 2004. Since 1998, total unit cost has increased by 19.4 per cent, an annual average of 3.0 per cent.

The total cost of transit systems was estimated at \$5.3 billion in 2004. Cost recovery was measured at 46.4 per cent, slightly above the level of the previous three years. Annual operating subsidies rose to \$1.9 billion, five per cent above the 2003 figures and 16 per cent above the 2001/02 average. Capital subsidies reached \$874 million, \$20 million less than the previous year.

Cost recovery ratios for 2004 were 49.7 per cent in Ontario, 44.6 per cent in Quebec, 42.9 per cent in British Columbia and 36.5 per cent in Alberta. Urban transit operations in the rest of Canada, which account for only five per cent of overall transit revenues, consistently show a higher cost recovery ratio. This ratio has been hovering around 50 per cent since 1996 and was at 50.6 per cent in 2004. Table 7-18 provides details on the performance of transit systems for selected regions in 2004.

TABLE 7-18: SELECTED PROVINCIAL SYSTEMS INDICATORS FOR URBAN TRANSIT, 2004

	Quebec	Ontario	Alberta	British Columbia	Canada
Price levels (Canada = 100)	78.1	118.3	80.5	107.1	100.0
Total unit cost (Canada = 100)	81.2	110.4	102.4	115.9	100.0
Cost recovery (in %)	44.6	49.7	36.5	42.9	46.4
Revenue shortfall per passenger (\$)	1.46	1.86	2.16	2.11	1.77

Source: Transport Canada, based on Statistics Canada and CUTA information

13 The U.S. Central region includes states in the Great Lakes area, i.e., Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

14 This section is the same as the one found in the report of last year. More recent data to update the section was not available.

*The value of marine exports increased by 13.4 per cent in 2004,
mainly to the United States, Japan, China and the United Kingdom.
The value of imports increased by six per cent.*

MAJOR EVENTS IN 2005

LEGISLATIVE AND REGULATORY CHANGES AND INITIATIVES

CANADA SHIPPING ACT AND REGULATORY REFORM UNDER THE CANADA SHIPPING ACT, 2001

The *Canada Shipping Act, 2001* (CSA 2001) received Royal Assent on November 1, 2001. Until the necessary regulations are in place, however, the existing *Canada Shipping Act* and its related regulations will remain in full force and effect.

The new regulations are being dealt with in two phases. Phase 1, expected to be completed early in 2007, will see more than 50 existing regulations reformed and streamlined into an estimated 22 regulations. At that time, the CSA 2001 will come into force. Phase 2 will see the remaining regulations modernized so they are consistent with the requirements of the new Act.

The CSA is the main legislation overseeing personal safety and environmental protection in Canada's marine sector. It applies to Canadian vessels operating anywhere and to foreign vessels operating in Canadian waters. In 2003, CSA legislative and regulatory responsibilities relating to pleasure craft safety, marine navigation services, pollution prevention and response, and navigable waters were transferred from Fisheries and Oceans Canada to Transport Canada.

With these added responsibilities, Transport Canada conducted cross-country public consultations on the Phase 1 regulations throughout 2004 and 2005. The bulk of these consultations occurred at the spring and fall regional and national meetings of the Canadian Marine Advisory Council (CMAC). In addition, several of the individual projects conducted outreach sessions with

stakeholders at strategic locations across Canada. The Regulatory Reform Project had for the most part completed its formal consultation phase by the end of 2004, and most projects are now in the legal drafting phase. A few individual projects continued consultations during 2005.

Some of the 22 streamlined regulations to come out of Phase 1 include Administrative Monetary Penalties, Ballast Water and Control Management, Cargo, Fumigation and Tackle, Collision, Competency of Operators of Pleasure Craft, Environmental Response, Fire Safety, Fishing Vessel Safety, Heritage Wreck, Load Lines, Marine Personnel, Prevention of Pollution from Ships and for Dangerous Chemicals, Small Vessels, Vessel Clearance, Vessel Operation Restrictions, and Vessel Registration and Tonnage. Added to the original list of Phase 1 regulations are Vessel Certificates, Safety Management, Ships Registry and Licensing Fees Tariff, and Appeal from Detention Orders, along with three minor regulations that need to be repealed. For more information on the CSA 2001 Regulatory Reform Project, visit www.tc.gc.ca/marinesafety/menu.htm.

MARINE LIABILITY ACT

MARITIME LAW REFORM DISCUSSION PAPER

In May 2005, Transport Canada released the Maritime Law Reform Discussion Paper. This paper proposes a number of amendments to the *Marine Liability Act* as well as the modernization of outdated concepts in maritime law.

The proposed amendments include the possible ratification of four international conventions: the 1976 Convention on the Limitation of Liability for Maritime Claims, as amended by its 1996 Protocol; the Supplementary Fund Protocol of 2003 of the International Oil Pollution Compensation Fund Convention (this would increase the available compensation for oil pollution from

\$405 million to \$1.5 billion per incident); the 2001 Convention on Bunker Oil Pollution Damage; and the 1996 Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (this would provide a new liability regime for carriage of such substances). The proposed amendments also include a proposal to remove from the passenger liability regime (Part 4 of the MLA) certain types of vessels used mainly in adventure tourism.

MARINE ATLANTIC ADVISORY COMMITTEE

In November 2004, an advisory committee was formed to study a wide range of issues and identify long-term strategies for stabilizing Marine Atlantic's ferry service operations. The Committee held consultations with stakeholders and with representatives from Marine Atlantic in January 2005. In March 2005, the Committee provided the Minister of Transport a final report covering all aspects of its mandate and including 41 recommendations for improving the ferry service. The recommendations were in the areas of operations and service, fleet configuration and renewal and long-term funding and pricing strategies. There were three key recommendations: eliminate the drop-trailer service; plan for a three-vessel fleet composed of larger ferries purpose-built for the service; and based on estimated operational savings (over 14 years) from these two initiatives, roll-back rates by 15 per cent. On November 15, 2005, the Government of Canada announced its decision to continue the drop-trailer service provided that the level of cost recovery for the service is acceptable; the service is handled more efficiently by Marine Atlantic; and the trucking industry improves efforts to work with Marine Atlantic on initiatives to better manage traffic demand. Transport Canada continues to work with Marine Atlantic to develop a long-term strategy that will consider important elements such as rates structure, governance and fleet requirements.

NATIONAL MARINE AND INDUSTRIAL COUNCIL

The National Marine and Industrial Council (NMIC) was established in 2004. The industry's primary objective for this industry-government forum is to raise the profile of Canada's marine transportation as an economic generator. The Council also provides a venue for discussing marine policy issues with leaders from the marine industry and deputy ministers of departments that have direct influence on the marine transportation sector. Key issues being discussed cut across several federal departments and include competitiveness, security, innovation and infrastructure.

The Council is made up of industry executives, including cargo shippers, domestic and international shipowners, port operators and marine service providers from across the country, and federal government senior officials, including the deputy ministers of Transport Canada, Industry Canada, Fisheries and Oceans Canada, International Trade Canada and Environment Canada. The inaugural meeting of the NMIC took place on May 31, 2004. The Council holds meetings bi-annually.

SHORTSEA SHIPPING FOR INCREASING INTERMODALITY

Following the successful 2004 National Marine Conference on Shortsea Shipping in Montreal, Transport Canada continued efforts in 2005 to promote shortsea shipping opportunities as a means to help alleviate congestion, strengthen intermodalism, improve utilization of waterway capacity, facilitate trade and reduce greenhouse gas emissions — in other words, to increase the efficiency of the overall transportation system.

Transport Canada continued to pursue the promotion of shortsea shipping through a 2003 Memorandum of Cooperation with the United States and Mexico. The memorandum intends that North American transportation authorities would cooperate in exchanging information and experiences on shortsea shipping. Transport Canada also undertook several studies and initiatives to understand and assess the opportunities, challenges, policy considerations and overall state of shortsea shipping in Canada, whether on the west or east coast, the St. Lawrence Seaway, the Great Lakes or in the Arctic. Furthermore, Transport Canada continued to be an active member of the Quebec Shortsea Shipping Roundtable. This roundtable works to create a clearinghouse for information and expertise, communicate information to stakeholders, and promote and support shortsea shipping projects.

CANADA MARINE ACT

In June 2005, Bill C-61, "An Act to amend the *Canada Marine Act* (CMA) and other Acts," was introduced in Parliament. The proposed amendments follow the tabling of a June 2003 report pertaining to the first five years of operation of the Act. C-61 fine-tuned the existing provisions and provided Canada Port Authorities (CPAs) with access to federal funding for certain infrastructure projects (to a capped amount) and national security. Bill C-61 was complemented by other policy initiatives aimed at maximizing the efficiency of the marine sector and strengthening its role in Canada's international trade. With the dissolution of the 38th Parliament in November 2005, Bill C-61 died on the order paper.

INFRASTRUCTURE

CANADA'S PORTS AND HARBOURS SYSTEM

Within the national transportation system, Canada's ports and harbours provide crucial links between economic activities and otherwise inaccessible markets. They are vital gateways to the rail and road networks.

The National Marine Policy, announced in December 1995, has been realized through the *Canada Marine Act* (CMA). With that announcement, the federal government began reorganizing Canada's ports system. Since then, it has implemented a restructuring process to commercialize marine infrastructure. To facilitate this restructuring, three categories of ports are specified by the National Marine Policy: (1) Canada Port Authorities (CPAs), (2) regional/local ports and (3) remote ports.

Under the National Marine Policy, 19 major Canadian ports were deemed vital to Canada's domestic and international trade. The Canada Port Authorities, established under the CMA, have also met criteria for financial self-sufficiency, diversified traffic and intermodal connections. Independently managed, the CPAs are essential links in Canada's domestic and international trade. The 19 CPAs are: Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax. These include former Canada Ports Corporation's major divisional ports and former harbour commissions. The Port of Oshawa is the last harbour commission operating in Canada.

CPAs were incorporated by Letters Patent for the purpose of operating a particular port. They act as agents of the Crown under the CMA for certain purposes. As such, they have the authority to engage in activities related to shipping, navigation, transport of passengers and goods, and handling and storing of goods. They can also engage in other activities that the Letters Patent deem necessary to support port operations. With respect to these activities, however, they are not agents of the Crown.

Although CPAs were granted the right to operate and manage a port, they cannot issue shares. They may be given Crown land to operate and manage, but not to own. They may, however, acquire and own land in their own name. They may also establish fair and reasonable fees for use of the facilities or services provided at the port as a way of covering costs. CPAs may not discriminate among users of the port, but they may differentiate in their fees and services based on the volume or value of goods or on any basis generally accepted commercially.

CPAs must also demonstrate public accountability. As set out in the CMA, each board of directors includes seven to eleven members. (All CPAs have seven members, except for Vancouver, which has nine). Each board appoints the officers of the CPA. A majority of each board is appointed in consultation with port users. In addition, the federal and respective provincial and municipal governments each appoint one director.

Most Transport Canada-owned ports are regional/local ports. These range from ports with a high volume of regional and local traffic to smaller ports with little or no commercial activity. In accordance with the Port Divestiture Program, the federal government is terminating its operational and ownership interests in regional/local ports. This means transferring them to other federal departments, provincial governments or local interests. Local interests include municipal authorities, community organizations and private interests. For remote ports serving as the primary transportation portals for isolated communities, Transport Canada will retain control and administration unless local stakeholders are willing to assume ownership of them.

PORT DIVESTITURE

The Port Divestiture Program was originally scheduled to end on March 31, 2002. As part of the federal government's efforts to modernize Canada's marine system, however, the program was extended by Cabinet until March 31, 2006. As such, Transport Canada will continue to transfer ownership and operations of its regional/local ports to local communities. Local accountability will help create a more effective and efficient port system by instilling commercial discipline and efficiency. In addition, greater autonomy will enable ports to apply more effective business principles while promoting employment and economic growth. Once ports have been transferred, Transport Canada ends its operational role. This includes directly enforcing regulations, collecting user fees, and monitoring port operations.

Before the National Marine Policy came into force, Transport Canada controlled and administered 549 public ports and port facilities. Of these, 462 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2005, 87 sites remained under Transport Canada control. In addition, there are 20 sites where facilities have been transferred but cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2005.

As of December 31, 2005, 65 sites had been transferred to other federal departments and 40 had been transferred to provincial governments. Another 120 sites were divested to local interests. In addition, 26 sites have either been demolished or have had Transport Canada's interest terminated through lease or licence terminations.

Since the Ports Divestiture Program began, 271 public ports have been deproclaimed. Of these, archival research identified another 26 harbours beyond the original 549 port sites listed in the National Marine Policy. Transport Canada continues to administer 61 regional/local ports and 26 remote ports nationwide.

FINANCIAL PERFORMANCE

For detailed financial information, see Addendum tables A8-3 to A8-6.

In 2004, the operating revenues of the CPAs totalled \$310 million, up 3.4 per cent from 2003. Vancouver and Montreal accounted for 55 per cent of this amount. Twelve of the 19 CPAs reported greater operating revenues, ranging from increases of \$0.05 million to \$1.9 million. Montreal and Quebec City had the greatest increases, at \$1.9 million (2.8 per cent) and \$1.7 million (12.8 per cent), respectively.

Operating expenditures increased by \$10.6 million, with individual increases ranging from \$0.02 million to \$4.1 million. Only five CPAs reported lower expenses, ranging from \$0.03 million to \$1.0 million decreases. The ports reported \$11.3 million in total gross revenue charges, up 3.7 per cent from 2003. The port authorities spent \$110 million on capital projects in 2004.

The ratio of operating expenditures as a percentage of operating revenues for the CPAs averaged 84 per cent in 2004. Individual ratios ranged from 60 per cent to 180 per cent. The overall return on assets was 3.4 per cent.

In 2004, the net income of all port authorities totalled \$48 million. Six CPAs reported higher net incomes ranging from \$0.02 million to \$3.2 million increases, while four reported net losses ranging from \$0.2 million to \$4.8 million.

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2005

	<i>Federal</i>	<i>Provincial</i>	<i>Local</i>	<i>Total</i>
Federal Agency Ports				
Canada Port Authorities	19	N/A	N/A	19
Harbour Commissions	1	N/A	N/A	1
Ports Operated by Transport Canada				
Regional/Local	61	N/A	N/A	61
Remote	26	N/A	N/A	26
Ports Transferred¹				
From Transport Canada	65	40	120	225
Status of other former Transport Canada Ports				
Demolished	8	N/A	N/A	8
Interests terminated	18	N/A	N/A	18
Deproclaimed ²	211	N/A	N/A	211

Notes: N/A = Not available.

Additional detailed information on ports is presented in tables A8-1 and A8-2 in the Addendum. This includes summaries of the provincial distribution of the ports Transport Canada administered from 1996 to 2005 and the divestiture status of regional/local and remote ports on a regional basis.

1 Includes 18 sites where facilities have been transferred but harbour bed has not yet been deproclaimed, 64 sites that were transferred to Fisheries and Oceans Canada and one site that was transferred to Health Canada.

2 Public harbours deproclaimed between June 1996 and March 1999.

Source: Transport Canada

Based on some preliminary data, tonnage handled at CPAs increased from 228 million tonnes in 2003 to 237 million tonnes in 2004. Five CPAs accounted for 69 per cent of total cargo by volume: Vancouver (31 per cent), Saint John (11 per cent), Montreal (10 per cent), Quebec City (9 per cent) and Sept-Îles (7 per cent). The revenues per tonne decreased from \$1.34 in 2003 to \$1.31 in 2004, while expenses per tonne remained the same at \$1.1 for 2003 & 2004.

Transport Canada's Port Programs incurred a total net loss of \$42.7 million in fiscal year 2004/05. This total was derived from \$13.6 million in gross revenues minus \$26.9 million in expenses, \$11.6 million in capital expenditures and \$17.8 million in grants and contributions for port divestiture transfers. For details, see Table A8-6 in the Addendum.

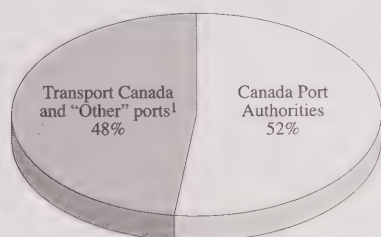
PORT TRAFFIC

Preliminary data indicate that Canada's ports handled approximately 456 tonnes of cargo in 2004, up about three per cent over 2003. Statistics Canada data was unavailable for 2004. Therefore, these estimates were derived from CPA sources and historical data.

Preliminary data from CPA Web sites shows that CPA ports handled approximately 237 million tonnes of cargo in 2004, representing 52 per cent of total cargo.

Figure 8-1 shows estimated traffic shares by port groups in 2004.

FIGURE 8-1: TRAFFIC SHARES BY PORT GROUPS, 2004



1 "Other" ports represents locations owned and operated by Fisheries and Oceans Canada, provincial and municipal governments, or private facilities.

Source: Statistics Canada

The 2004 tonnage breakdown for CPAs was: Vancouver, 73.6 million tonnes; Saint John, 26.3 million tonnes; Montreal, 23.6 million tonnes; Quebec, 21.8 million tonnes; Sept-Îles, 17.5 million tonnes; Halifax, 13.8 million tonnes; Fraser River, 13.9 million tonnes; Hamilton, 12.0 million tonnes; Thunder Bay, 8.5 million tonnes; Windsor, 5.3 million tonnes; North Fraser, 5.1 million tonnes; Prince Rupert, 4.4 million tonnes; Trois-Rivières, 2.3 million tonnes; Belledune, 2.2 million tonnes; Nanaimo, 2.0 million tonnes; Toronto, 1.9 million tonnes; St. John's, 1.6 million tonnes; Port Alberni, 1.0 million tonnes and Saguenay, 0.39 million tonnes.

Tonnage at Transport Canada ports is expected to remain steady based on the consistent revenues collected for 2004.

SMALL CRAFT HARBOURS PROGRAM

Fisheries and Oceans Canada

Within the Fisheries and Oceans Canada (DFO), the Small Craft Harbours Program (SCH) operates and maintains a national system of harbours to provide safe and accessible facilities for commercial fishers and recreational boaters. SCH's mandate is to keep harbours critical to the fishing industry open and in good repair. DFO's long-term objective is to retain a network of approximately 750 core, locally managed fishing harbours. All non-essential harbours (i.e., recreational harbours and fishing harbours with low or no activity) will be divested.

Fishing harbours

The SCH program has supported the creation of local harbour authorities (HAs) since the late 1980s. The harbour authorities manage the commercial fishing harbours within their own communities. Typically, they are local, non-profit organizations composed of fishers and other harbour users that lease the harbour from the SCH and provide services, maintenance and harbour management. As of December 30, 2005, harbour authorities managed 682 core fishing harbours across Canada. This amounts to about 91 per cent of the SCH program target. Usually, low or no-activity fishing harbours with a negligible impact on the commercial fishing industry or the community at large do not generate enough community interest to form harbour authorities. Such harbours will be divested or, if necessary, demolished. To date, 291 fishing harbours have been divested and 90 are in the final stage of divestiture.

Table 8-2 shows the number of fishing harbours remaining in the SCH portfolio as of December 31, 2005, by region and type of management.

TABLE 8-2: SCH FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF DECEMBER 31, 2005

	<i>Harbour Authorities</i>	<i>Small Craft Harbours</i>	<i>Regional Total</i>
Pacific ¹	72	76	148
Central and Arctic	33	37	70
Quebec	51	32	83
Maritimes and Gulf	281	44	325
Newfoundland and Labrador	245	133	378
Total²	682	322	1,004

1 Totals include 47 mooring buoy sites in British Columbia.

2 There are no harbour authorities in Northwest Territories, Nunavut or the Yukon.

Source: *Small Craft Harbours, Department of Fisheries and Oceans*

Recreational Harbours

The SCH program intends to divest all its recreational harbours. Since 1994/95, 661 (or 78 per cent) of all SCH recreational harbours have been divested or are in the final stages of divestiture. The SCH disposal strategy was approved by Treasury Board in 1995. It permits disposals at a consideration of \$1.00, subject to conditions. One condition is the requirement to maintain public access for at least five years. Prior to transfer, environmental assessments and reasonable repairs are completed to ensure facilities are in a safe condition before being

transferred. Recipients are mainly municipalities, local non-profit organizations, First Nations or other federal departments. If no public body is interested in acquiring the facilities, they are offered at market value to the general public. As a last resort, when neither public nor private parties show interest in the facilities, they are demolished. The recreational harbour divestiture program is expected to continue for several more years.

Tables 8-3 to 8-5 summarize, by region, the status of the SCH recreational harbour divestiture program, recipients of harbours divested, and management type of remaining SCH harbour sites, respectively.

MARINE PILOTAGE

In Canada, navigation and/or ship handling of vessels through coastal and inland waterways in a safe and efficient manner is directed and controlled by regional pilotage authorities. There are four of these authorities in Canada: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA). Each responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region.

TABLE 8-3: SCH RECREATIONAL HARBOUR DIVESTITURES BY REGION AS OF DECEMBER 31, 2005

	<i>Fully Divested 1995 – 2004</i>	<i>Fully Divested 2004/05</i>	<i>Final Stage of Divestiture</i>	<i>Total Divested</i>	<i>Remainder to be Divested</i>	<i>Regional Total</i>
Pacific	54	0	4	58	7	65
Central and Arctic	273	9	17	299	146	445
Quebec	204	11	9	224	29	253
Maritimes and Gulf	74	5	0	79	1	80
Newfoundland and Labrador	1	0	0	1	1	2
National Totals	606	25	30	661	184	845

Source: *Small Craft Harbours, Fisheries and Oceans Canada*

TABLE 8-4: RECIPIENTS OF DIVESTED SCH RECREATIONAL HARBOURS AS OF DECEMBER 31, 2005

	<i>Province¹</i>	<i>Municipality</i>	<i>Private Sector</i>	<i>Other²</i>	<i>Total by Region</i>
Pacific	51	1	1	5	58
Central and Arctic	19	204	21	55	299
Quebec	3	186	2	33	224
Maritimes and Gulf	4	19	4	52	79
Newfoundland and Labrador	0	1	0	0	1
Total	77	411	28	145	661

1 Many of these properties were subject to provincial reversionary interests.

2 Refers to sites that have been transferred to local non-profit organizations, First Nations or other federal departments, as appropriate.

Source: *Small Craft Harbours, Fisheries and Oceans Canada*

TABLE 8-5: SCH RECREATIONAL HARBOURS BY MANAGEMENT TYPE, AS OF DECEMBER 31, 2005

	<i>Managed Under Lease</i>	<i>Small Craft Harbours</i>	<i>Other¹</i>	<i>Total by Region</i>
Pacific	1	0	6	7
Central and Arctic	99	36	11	146
Quebec	3	26	0	29
Maritimes	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	103	64	17	184

1 Refers to a variety of management and non-management situations. Some infrastructure, such as shoreline reinforcement or breakwaters, are largely stable and do not require ongoing management. Some facilities are part of a larger development (i.e., a marina, and managed as part of that development). In other cases, facilities no longer exist at the site and there is nothing to manage.

Source: *Small Craft Harbours, Fisheries and Oceans Canada*

The LPA, GLPA and PPA each experienced a deficit in 2005, resulting in a combined loss just under \$4 million for the four pilotage authorities. However, this was less than the combined deficit reported last year. Table 8-6 shows the financial results for the four pilotage authorities in 2005.

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2005

(Thousands of dollars)			
<i>Pilotage Authority</i>	<i>Revenues</i>	<i>Expenditures</i>	<i>Net income (loss)</i>
Atlantic Pilotage Authority (APA)	16,172	16,484	312
Laurentian Pilotage Authority (LPA)	56,505	59,819	(3,314)
Great Lakes Pilotage Authority (GLPA)	15,570	16,403	(833)
Pacific Pilotage Authority (PPA)	47,640	47,736	(96)
Total Pilotage Authorities	135,887	140,442	(3,931)

Source: Pilotage Authorities' 2005 draft annual reports

Using the average number of assignments per pilot as an indicator, overall, the efficiency of pilotage services continued to increase in 2005. The only exception was the APA where the average number of assignments per pilot stayed roughly the same as in 2004. The variations between the authorities and from year to year are related to traffic levels. Assignments increased for the LPA and PPA, but decreased for the APA and GLPA. Overall, there were more assignments in 2005 than in 2004.

Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2005. For information on other years, see Table A8-8 in the Addendum.

TABLE 8-7: TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2005

<i>Pilotage Authority</i>	<i>Indicators</i>	<i>2005</i>
Atlantic (APA)	Pilots	54
	Total Assignments	11,690
	Assignments Per Pilot	216
Laurentian (LPA)	Pilots	174
	Total Assignments	22,197
	Assignments Per Pilot	128
Great Lakes (GLPA)	Pilots	59.5
	Total Assignments	6,443
	Assignments Per Pilot	108
Pacific (PPA)	Pilots	110
	Total Assignments	13,219
	Assignments Per Pilot	120
Total All Authorities	Pilots	397.5
	Total Assignments	53,549
	Assignments Per Pilot	135

Source: Pilotage Authorities' 2005 draft annual reports

CANADIAN COAST GUARD

The Canadian Coast Guard (CCG), an integral part of Fisheries and Oceans Canada, is a key national institution. Through the CCG Canada exerts its influence over its waters and coasts and delivers on public expectations of clean, safe, secure, healthy and productive waters and coastlines.

The CCG offers nine services.

Aids and Waterways Services supports marine safety, accessibility of waterways and environmental protection by maintaining approximately 17,300 navigational aids (short- and long-range) and by monitoring conditions of 75 shipping channels.

Marine Communications and Traffic Services monitors 450,000 vessel movements annually, provides marine distress/safety communications and coordination, conducts vessel screenings, regulates vessel traffic movement, and provides information systems and public correspondence around the clock on a year-round basis.

Icebreaking Services provides icebreaking and related services to facilitate safe and expeditious movement of maritime traffic through and around ice-covered Canadian waters. Related services include ice reconnaissance, harbour breakouts, information provision, routing assistance, etc.

Search and Rescue Services delivers search and rescue preparedness and response services to save and protect lives in Canada's maritime environment.

Environmental Response Services delivers environmental incident preparedness and response services that protect the marine environment under Canadian jurisdiction. It also provides response assistance to other countries under international agreements.

Maritime Security Services supports the Government of Canada's national security objectives by contributing to security on Canadian waterways.

Coast Guard College Services trains junior officers for Coast Guard service.

Fleet Services manages, operates and maintains CCG vessels and aircraft to help deliver civilian marine services in support of the Government of Canada's maritime priorities.

The CCG contributes to other Government of Canada objectives, including its maritime priorities, through delivery of civilian marine services (expertise, personnel and infrastructure such as vessels and aircraft) on behalf of other government departments or through support to agencies and organizations.

On December 12, 2003, changes were announced to the structure of the Government of Canada, including the creation of the CCG as a Special Operating Agency (SOA). In the same year, an Order in Council initiated the transfer of responsibilities for marine safety and security policies to Transport Canada from Fisheries and Oceans Canada. This affected how the Coast Guard was to conduct its remaining services. The design and operation of the CCG as an SOA was approved by Treasury Board on March 21, 2005, and the CCG officially became an SOA on April 1. The CCG is in fact the largest Special Operating Agency in Canada. As such, it will focus on providing essential and valuable services to mariners in Canadian waters.

CCG physical assets are worth approximately \$5 billion. SOA status gives the Coast Guard greater flexibility in delivering more efficient and effective services as a national institution focussed on operations. It also allows the CCG to strengthen its relationship with the remainder of Fisheries and Oceans Canada, and deliver critical services to all clients, while playing an enhanced support role with the developing national security agenda.

FINANCIAL PROFILE

Table 8-8 shows the Coast Guard's financial results for the past four fiscal years. Results for 2005/06 reflect forecasted revenues and expenditures to fiscal year-end and will not be finalized until the end of the fiscal year. Refer to Table 8-9 for a breakdown of the Coast Guard's revenues and gross expenditures by sub-activity.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND EXPENDITURES, 2002/03 – 2005/06

	(Millions of dollars)			
	2002/03	2003/04 ¹	2004/05 ²	2005/06 ³
Revenue	37.0	37.4	40.4	50.1
Gross Expenditures	498.0	504.5	543.3	548.0
Net Expenditure	461.0	467.1	502.9	497.9

1 2003/04 figures do not include the Coast Guard College.

2 2004/05 figures include amounts related to the Coast Guard College, which was transferred to the Coast Guard as of April 1, 2004.

3 Gross and Net Expenditures exclude Program Enablers.

Source: Fisheries and Oceans Canada

TABLE 8-9: CANADIAN COAST GUARD PLANNED REVENUES AND EXPENDITURES, 2005/06

	(Millions of dollars)						
	AWS	MCTS	ICE	SAR	ER	College	Fleet
Revenues	32.4	0.2	13.8	0	0	3.7	0
Gross Expenditures ¹	125.2	98.1	55.9	93.6	10.6	8.0	156.6
Net Planned Spending¹	92.8	97.9	42.1	93.6	10.6	4.3	156.6

Note: AWS: Aids and Waterways Services; MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; SAR: Search and Rescue Services; ER: Environmental Response Services; Fleet: Fleet Management Services.

1 Gross expenditure figures exclude Program Enablers.

Source: Fisheries and Oceans Canada

The Marine Navigation Services Fee was introduced by the Coast Guard in June 1996. It is intended to collect \$27.7 million annually, including administrative costs.

To comply with the Government of Canada's cost recovery policy, several years ago, the Coast Guard began to recover the costs it incurs while providing services to industry.

A transit-based Icebreaking Services Fee was introduced by the Coast Guard in 1998. It is intended to collect \$13.8 million annually, including administrative costs.

The Maintenance Dredging Services Tonnage Fee was established in September 1997. It was originally intended to temporarily cover the CCG's full costs for providing maintenance dredging services in the St. Lawrence Ship Channel. The Coast Guard and the commercial marine transportation industry continue to work toward a long-term arrangement under which the industry would assume responsibilities for these dredging services.

Table 8-9 breaks down the Coast Guard's 2005/06 revenues and expenditures for its main sub-activities. Both revenues and expenditures are forecasts only and will not be finalized until the end of the fiscal year.

ST. LAWRENCE SEAWAY

The St. Lawrence Seaway is a unique inland waterway cutting to the industrial heartland of North America. It serves 15 major international ports and some 50 regional ports on both sides of the Canada–United States border.

The Seaway is made up of the Montreal–Lake Ontario (MLO) section, running from Montreal to Lake Ontario, and the Welland Canal section, joining Lake Ontario to Lake Erie. The MLO section has seven locks over 300 kilometres, five in Canada and two in the United States. The Welland Canal section has eight locks over 42 kilometres, all in Canada.

The locks and channels of the Seaway accommodate vessels up to 225.5 metres long, 23.8 metres wide and 8 metres in draft. Combined, these 15 locks gradually raise vessels 183.2 metres above sea level, the height of a 60-storey building.

Management, operation and maintenance of the navigational aspects of the Canadian portion of the Seaway are the responsibility of the St. Lawrence Seaway Management Corporation (SLSMC). The SLSMC was established as a not-for-profit corporation by Seaway users and other interested parties. It assumed management of the Canadian Seaway on October 1, 1998, under a long-term agreement with the federal government pursuant to the *Canada Marine Act*. The SLSMC charges tolls and generates other revenues to finance the operation and maintenance of the Seaway. When required, it also receives additional funds from the federal government to eliminate operating deficits.

In 2005, the Seaway handled an estimated 43.3 million tonnes. Once again, iron ore was the main commodity shipped, at 11 million tonnes. This total was 5.5 per cent higher than in 2004. Shipments of grain also increased, by 4.8 per cent, to total 9.8 million tonnes. Overall, bulk cargo flows were about the same as in 2004. Volumes of general cargo, including imported steel movements, declined by 23 per cent to 3.3 million tonnes, from 4.3 million tonnes the year before. Table 8-10 shows cargo movements for 2003 and 2004 while Table 8-11 shows traffic by commodity for the same years. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

TABLE 8-10: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2004 AND 2005

(Thousands of tonnes)

Year	Montreal-Lake Ontario Section	Welland Canal Section
2004	30,800	34,285
2005 ¹	31,273	34,160

¹ Figures are estimated as of December 31, 2005.

Source: St. Lawrence Seaway Management Corporation

TABLE 8-11: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2004 AND 2005

(Thousands of tonnes)

Year	Grain	Iron Ore	General Cargo	Coal	Other	Total
2004	9,322	10,459	4,252	4,230	15,203	43,466
2005 ¹	9,773	11,032	3,264	3,701	15,513	43,301

Note: Combined traffic in the two sections of the Seaway.

¹ Figures are estimated as of December 31, 2005.

Source: St. Lawrence Seaway Management Corporation

RATES AND TARIFFS

The SLSMC implemented a 1.72 per cent cargo toll and ship charge increase for the 2005 navigation season in both sections of the Canadian Seaway. This increase is in accordance with the management agreement between the SLSMC and the federal government, which stipulates annual tariff increases based on the lesser of the annual average percentage change in the Consumer Price Index or two per cent.

FINANCIAL PROFILE

In fiscal year 2004/05,¹ the Seaway generated \$74 million in revenues from tolls and other sources. This was an increase over the \$66.6 million generated in 2003/04. Toll revenues rose 12.1 per cent to \$70.3 million, up from \$62.7 million. This growth resulted from a combination of the two per cent mandatory toll increase and the significant increase in general cargo, with its higher tariff.

Also in 2004/05, Seaway operating expenses increased from \$59.2 million to \$60.2 million. These expenses are related to the management and operation of the Seaway infrastructure. Salaries, wages and benefits accounted for most of this total. Expenditures for the asset renewal program increased from \$24.3 million to \$32.1 million. These expenditures represent the cost of maintenance and major repairs of lock, canals, bridges, buildings and other infrastructure assets.

Table 8-12 shows the financial performance of the St. Lawrence Seaway from 2002/03 to 2004/05.

TABLE 8-12: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 2002/03 TO 2004/05

(Thousands of dollars)

Year ¹	Revenues	Expenditures	Excess of Revenues Over Expenses	Net Excess of Revenues Over Expenses ²
2002/03	66,815	84,394	(17,579)	(4,015)
2003/04	66,555	86,247	(19,692)	(3,087)
2004/05	74,005	98,439	(24,434)	(1,737)

¹ April 1 to March 31.

² Following contribution from Capital Trust Fund.

Source: St. Lawrence Seaway Management Corporation

¹ Tolls in fiscal year 2004/05 are for traffic in the 2004 navigation season.

INDUSTRY STRUCTURE

A fleet of Canadian-flag operators, which provides domestic and transborder shipping services, is part of Canada's marine industry. International trade is served largely by foreign-flag operators calling at Canada's major ports.

DOMESTIC SERVICES

The majority of domestic shipments of bulk materials on the Great Lakes and along Canada's coastline is carried by the Canadian merchant fleet. By the end of 2005, the fleet, which is defined as self-propelled vessels of at least 1,000 gross tons² flying the Canadian flag, included 184 vessels and 2.4 million gross tons.

In 2005, the dry bulk fleet was made up of 61 vessels and included straight-deck bulkers dedicated mainly to grain transportation, and self-unloading vessels carrying various bulk commodities. Although these carriers are declining in number, they remain the backbone of the Canadian merchant fleet, accounting for 46 per cent of tonnage and 33 per cent of vessels in 2005. By comparison, while the number of tankers decreased from 35 in 1985 to 27 in 2005, their capacity share increased from 11 to 31 per cent of total gross tonnage, due to the addition of larger units. In the last 20 years, the capacity of ferries vessels has also increased (from 10 to 17 per cent of total gross tonnage).

At the domestic and international level, an extensive fleet of tugs and barges was also in operation. In 2005, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 309 tugs (121,000 gross tons) and 835 barges and scows (905,000 gross tons). Approximately eight per cent of the tug population had tonnage greater than 1,000 gross tons and were used in offshore supply.

Table 8-13 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1985, 1995 and 2005.

TABLE 8-13: CANADIAN-REGISTERED FLEET BY TYPE, 1985, 1995 AND 2005

Type of carrier	Gross tons (Thousands of tons)			Number of vessels		
	1985	1995	2005	1985	1995	2005
Dry bulk	1,812	1,300	1,088	109	74	61
Tankers	269	186	743	35	27	27
General cargo	82	91	105	19	15	17
Ferries	264	344	398	56	60	73
Other	97	33	38	6	7	6
Total	2,524	1,955	2,373	225	183	184

Note: Self-propelled vessels of 1,000 gross tons and over, including government owned ferries; excluding tugs used in offshore supply.

Source: Canadian Transportation Agency and Transport Canada

EASTERN CANADA

A fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels provides freight services in eastern Canada, including the Arctic. The three largest operators in the Great Lakes–St. Lawrence region are Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines. Seaway Marine Transport, a partnership of Algoma Central Corporation and Upper Lakes Group, manages the largest fleet of self-unloading vessels and gearless bulk carriers on the Great Lakes, St. Lawrence River and waters of eastern Canada.

WESTERN CANADA

On the west coast, a large tug and barge fleet provides domestic marine cargo services. While most operators are involved mainly in the domestic trades, some also trade between Canadian and U.S. ports.

Washington Marine Group controls several of the largest tug and barge operations, including: Seaspan International Ltd., the west coast's largest Canadian tug and barge operator; Cates Tugs; Norsk; and Kingcome Navigation Company. Rivtow Marine Inc. (a SMIT Company) is the second-ranked tugboat company in British Columbia.

² Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as dead-weight tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

NORTHERN CANADA

In the western Arctic, Northern Transportation Company Limited (NTCL) is the main marine operator for the Mackenzie River Watershed (including the Mackenzie River and Great Slave Lake), the Arctic coast and islands, and Alaska. Utilizing a fleet of tugs and dual-purpose barges, NTCL's principal concerns are bulk petroleum products and dry cargo for communities, defence installations, and oil and gas exploration sites across the North. Working with the Government of the Northwest Territories, NTCL chartered a tug and tank barge in 2005 and brought petroleum products from Vancouver into the Western Arctic via Point Barrow.

In early 2001, responsibility for the eastern Arctic sealift for dry cargo and bulk fuel was transferred from the Canadian Coast Guard to the Government of Nunavut. Since then, all Government of Nunavut departments, corporations, agencies and contractors are required to use the contracted carrier. All other shippers using this service may ship under the same terms and conditions of the contract.

Under multi-year contracts, Nunavut Sealink and Supply Inc. (NSSI) and Nunavut Eastern Arctic Shipping (NEAS) continued to supply dry cargo sealift for the Eastern Arctic during the 2005 season. NSSI, a partnership between Transport Desgagnes and Arctic Cooperatives Ltd., served the seven Kivalliq communities and four Baffin Island communities. NEAS served the remaining 10 Baffin Island communities. The cargo was shipped from Montreal. As the option to extend the current Resupply Agreement to 2008 was not exercised in 2005, the current contract will expire in 2006. In December, the Government of Nunavut issued a request for proposals to secure marine transport for dry cargo beginning in the 2006 season.

The Woodward Group and NTCL, also with multi-year contracts, continued to deliver bulk fuel to the region. Utilizing two tankers travelling from Montreal and Churchill, the Woodward Group serviced the Baffin and Kivalliq regions in 2005. NTCL served the Kitikmeot region.

In addition to the Arctic sealift for Nunavut communities, resupply services to the Nunavik region are managed by the Quebec Ministry of Transportation. The James and Hudson Bay Cree are served out of Moosonee, with cargo originating in the Toronto region.

Beginning in 2004, Gardewine North, Hudson Bay Railway, The Port of Churchill and Moosonee Transportation Limited formed an alliance to provide sealift transportation to the Kivalliq. Moosonee Transport,

located in James Bay, leased two barges from NTCL to resupply seven Kivalliq communities with dry cargo in July and August. Shippers are offered one single thru-rate for freight that encompasses a combination of truck, rail and marine transportation modes from either Thompson or Winnipeg (Manitoba) to the Kivalliq Region in Nunavut.

Mining operations in the Arctic regions also have vessels calling with supplies inbound and carrying zinc and lead concentrates to world markets outbound.

INTERNATIONAL SERVICES

Marine freight transport at the international level includes bulk shipping and liner shipping.

Bulk shipping is the transport of large volumes of homogeneous cargo, often in shiploads. These services are provided under time charters (short-term and long-term contracts) and short-term "spot" or "tramp" contracts, generally for a specified number of voyages or days, or for a given quantity of cargo. The bulk shipping industry operates in a competitive market. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flag ships. Types of Canadian bulk cargoes include coal, iron ore, grain and potash.

Liner shipping is the transport of many individual consignments of cargo, at fixed prices for each commodity, on ships that operate regularly among ports of call on a scheduled basis. Liners often use standardized containers that can easily be transferred to trains or trucks for transport away from the port to carry the cargo. Large fleets of specialized container vessels operating on major trade routes around the world dominate liner shipping.

Shipping lines that call at Canadian ports provide liner services either independently or as members of shipping conferences that adhere to rates and/or conditions of service under a conference agreement. These practices are exempt from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA), which was amended in 2002.

Independent shipping lines (also called non-conference carriers) contribute to a competitive international shipping industry by offering rates and services comparable with those of conference operators. Shipping lines sometimes choose to be a conference member on certain routes and an independent operator on others.

Most of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews.

SERVICES AVAILABLE TO CANADIAN SHIPPERS

In 2005, the Canadian Transportation Agency had 15 shipping conference agreements on file. Conferences are no longer required to file their tariffs with the Agency.

Five of the conferences operate between eastern Canada, northern Europe and the Mediterranean. Atlantic Container Line, Canada Maritime Ltd., Hapag-Lloyd Container Line, P&O Nedlloyd, Mitsui O.S.K. Lines and Orient Overseas Container Lines are among the major lines serving Canada as conference members.

Table 8-14 lists the 15 conference agreements on file with the Canadian Transportation Agency.

TABLE 8-14: SHIPPING CONFERENCES SERVING CANADA IN 2005

Canadian Continental Eastbound Freight Conference (E)
 Canada–United Kingdom Freight Conference (E)
 Continental Canadian Westbound Freight Conference (E)
 Australia–Canada Container Line Association (E & W)
 Mediterranean Canadian Freight Conference (E)
 Canada/Australia–New Zealand Association Carriers (CANZAC) (E & W)
 New Zealand–Canada Container Lines Association (E & W)
 Canada Transpacific Stabilization Agreement (E & W)
 Mediterranean North Pacific Coast Freight Conference (Canada) (W)
 Canada/Australia–New Zealand Discussion Agreement (E & W)
 Canada North Atlantic Westbound Freight Conference (E)
 Canada Westbound Transpacific Stabilization Agreement (E)
 Joint Mediterranean Canada Service Agreement (E)
 Canadian Pacific/Latin American Freight Service (W)
 Columbus/Maruba Working Agreement (W)

Notes: E = East Coast; W = West Coast

Source: Canadian Transportation Agency

Due to provisions on independent action under the SCEA, shippers benefit from competition between conference and non-conference carriers as well as from competition within conferences. Under these provisions, individual conference members are allowed to offer rates or services that differ from those found in the conference agreement. And, with the 2002 SCEA amendments, conference members now have to give only five, rather than 15, days' advance notice to other conference members if it intends to take independent action.

The 2002 SCEA amendments also allow a conference member to sign service contracts with shippers without having to disclose the contract terms and conditions to other conference members. It further allows a conference and a shipper to negotiate and sign confidential, conference-wide service contracts. These contracts must, however, be filed with the Canadian Transportation Agency in order to comply with the SCEA.

In 2005, the Canadian Transportation Agency accepted filings for only five service contracts,³ down from 15 in 2004 and 25 in 2003. The contracts applied to both inbound and outbound traffic and to origins and destinations on both the east and west coasts of Canada.

PASSENGER TRANSPORTATION

FERRY SERVICES

While most major ferry operators in Canada belong to the Canadian Ferry Operators Association (CFOA), Canada's ferry services are marked by wide differences in ownership, services and vessel type. Owners range from small, private operators to provincial governments and federal Crown corporations. Terminals and docking facilities are owned, leased and operated by ferry companies, municipalities, private companies and federal and provincial governments. Vessel types range from small cable ferries to large cruise-type vessels and fast ferries. Operations range from seasonal to year-round service.

For details on the major ferry services, see Addendum Table A8-11. In addition, most major ferry services have their own Web sites, routes and rates.

The 2004 traffic figures for all CFOA members (2005 figures not yet available) give a good indication of the relative size of CFOA operations. An estimated 38 million passengers and 16 million vehicles used Canadian ferry services in 2004. By far Canada's largest operator, the British Columbia Ferry Services Inc. carried over 22 million passengers and 8.6 million vehicles. British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation, also operating inland ferry services, carried another 7.2 million passengers and 3.3 million vehicles. In Quebec, La Société des Traversiers du Québec carried 5.4 million passengers and 2.7 million automobile equivalent units (AEU).

In Atlantic Canada, federally supported ferry services are now limited to those provided by Marine Atlantic Inc., a federal Crown corporation, and Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée, both private-sector operators. On the west coast, the federal government provides an annual grant to British Columbia that is directed to BC Ferries.

3 Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

In 2004, Marine Atlantic Inc. carried 417,550 passengers and 224,014 vehicles between Newfoundland and Labrador and Nova Scotia. Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée carried approximately 494,681 passengers and 207,135 vehicles. The remaining CFOA members, including provincial operators in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately 3.5 million passengers and 1.3 million vehicle crossings.

CRUISE SHIP INDUSTRY

Large cruise vessels calling at Canada's ports are owned by foreign-based companies. Sailing under foreign flags, these vessels offer two basic types of extended cruises: the luxury cruise and the "pocket" cruise, which is distinguished by vessel capacity of typically less than 150 passengers.

After the Caribbean and the Mediterranean, Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world. Vancouver and, increasingly, Seattle serve as "home ports," where passengers embark and disembark for these voyages. In 2005, Vancouver's share of this traffic experienced a 2.1 per cent decline from 2004 to 910,172 passengers. This decline is attributable mainly to the Port of Seattle's ability to attract cruise ships by opening new facilities, and to the impact of world events on travel and tourism.

In eastern Canada, luxury cruise vessels regularly depart New York and, travelling up the eastern seaboard, call in at Halifax, Charlottetown and other east coast ports before entering the St. Lawrence River and heading to Quebec City and Montreal. Shorter cruises also sail out of New York or Boston for Halifax, Saint John and other Atlantic ports. Many ports, including Saint John, have been investing in new facilities to serve cruise passengers.

Other Canadian ports also benefit from calls by cruise lines, including Victoria, British Columbia; St. John's, Newfoundland and Labrador; and Sydney, Nova Scotia.

Table 8-15 shows international cruise ship traffic at major Canadian ports in 2004 and 2005. Addendum Table A8-12 gives a longer time series.

TABLE 8-15: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2004 AND 2005

(Passengers)					
Year	Vancouver	Montreal	Quebec City	Halifax	Saint John
2004	929,976	43,385	71,280	212,834	138,622
2005 (prel.)	910,172	35,359	66,000	190,000	91,000

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

At the time of publication of this report, 2004 data on marine origin-destination traffic was not available from Statistics Canada. This data is scheduled for release by Statistics Canada in July 2006. Therefore, many of the tables in this section could not be updated with 2004 traffic data. Where feasible, Transport Canada has estimated traffic based on data published on the Web sites of the various Canadian Port Authorities (CPAs).

The CPA's domestic and international traffic data for 19 ports was also used to estimate marine freight traffic handled at all Canadian ports in 2004. In addition, historical transborder, and overseas traffic data was correlated to the international marine trade data (on a value basis) in order to estimate the 2004 traffic flows for each sector. Finally, total traffic handled as well as flows were correlated with Canada GDP at basic prices (in 1997 dollars).

In 2004, estimated marine freight traffic totalled 387 million tonnes,⁴ up 3.2 per cent from 2003. Estimated domestic flows⁵ accounted for more than one fifth of this (69.4 million tonnes), up 1.6 per cent from the year before (68.3 million tonnes). Canadian-flag vessels carried an estimated 95.8 per cent (66.5 million tonnes) of domestic flows. In 2004, Canada-U.S. estimated traffic totalled 128.6 million tonnes, up 4.1 per cent from 2003, and "Other" international (deep-sea or overseas) traffic⁶ increased by an estimated 3.1 per cent to 189 million tonnes.

4 Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double counted).

5 Maritime traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, the volumes get counted twice.

6 "Other" international traffic includes shipments to and from foreign countries other than the United States.

Table 8-16 shows Canada's 2002 to 2004 marine traffic statistics by sector. Addendum Table A8-13 covers the same information from 1986 to 2004.

TABLE 8-16: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2002 – 2004

(Millions of tonnes)

	Flows			Total Flows	Total Handled
	Domestic	Transborder	Overseas		
2002	62.6	114.3	168.4	345.4	408.1
2003	68.3	123.5	183.2	374.9	443.0
2004 (Est.)	69.4	128.6	188.9	386.9	456.3

Source: Statistics Canada, *Shipping in Canada*, Cat. 54-205
CPA ports web sites & Transport Canada traffic estimates for 2004

Table 8-17 compares the CPA port traffic (domestic and international) for 2003 versus 2004 as well as the 2004 estimated traffic handled at all the Canadian ports.

These 19 CPA ports handled more than half, 237 million tonnes, of all Canadian marine cargo in 2004. The balance of Canadian marine cargo represents 219 million tonnes of cargo handled by an equally important regional port system consisting of more than 200 ports located from the Atlantic to the Pacific to the Arctic.

TABLE 8-17: CANADA'S MARINE DOMESTIC & INTERNATIONAL TRAFFIC HANDLED FOR CPA'S AND OTHER PORTS, 2003 – 2004

Port	Millions of tonnes 2003	Port per cent share	Millions of tonnes 2004	Port per cent share	Difference per cent (2004 vs. 2003)
Vancouver	66.7	15.1	73.6	16.1	10.3
Saint John	26.1	5.9	26.3	5.8	0.7
Sept Îles/Pointe Noire	22.9	5.2	17.5	3.8	(23.3)
Montreal/Contrecoeur	20.8	4.7	23.6	5.2	13.7
Quebec/Lévis	20.2	4.6	21.8	4.8	8.2
Halifax	13.9	3.1	13.8	3.0	(0.3)
Fraser River ¹	13.7	3.1	13.9	3.0	1.5
Hamilton	11.0	2.5	12.0	2.6	8.9
Thunder Bay	8.3	1.9	8.5	1.9	3.5
North Arm Fraser River ¹	4.7	1.1	5.1	1.1	9.0
Windsor Ontario	4.6	1.0	5.3	1.2	14.0
Prince Rupert	4.3	1.0	4.4	1.0	2.8
Belledune	2.3	0.5	2.1	0.5	(7.6)
Nanaimo	1.9	0.4	2.0	0.4	3.0
Trois Rivières	1.9	0.4	2.3	0.5	24.6
Toronto	1.6	0.4	1.9	0.4	20.6
St. John's	1.6	0.4	1.6	0.4	0.6
Chicoutimi (Port Sagueny)	0.5	0.1	0.4	0.1	(18.2)
Port Alberni	1.0	0.2	1.0	0.2	2.3
Total CPA Ports	227.9	51.4	237.3	52.0	4.1
Other Ports²	215.2	48.6	219.0	48.0	1.8
Total Handled All Ports²	443.0	100.0	456.3	100.0	3.0

1 Due to double countings in domestic traffic for Fraser River & North Fraser River ports, use Statistics Canada data for 2003.

2 Estimated 2004 total traffic (456.3 millions) by Transport Canada, based on 2004 CPA traffic & historical market shares of the CPA ports.

Source: CPA ports Web sites data

MARINE TRADE

International trade data indicates that Canadian international marine trade in 2004 totalled \$117.5 billion (excluding shipments via U.S. ports). This is up 9.3 per cent from 2003. Marine imports totalled \$63.4 billion, while marine exports totalled \$54.1 billion.

Table 8-18 shows the value of the marine exports/imports by country of origin/destination in 2004.

The value of imports increased by 6.0 per cent, notably with increased cargos inbound from China, Germany, Norway, and South Korea. The principal commodities imported from China were: textiles, leathers, and end products; furniture, major appliances, household equipment; and machinery and electronic equipment.

The value of exports also increased, by 13.4 per cent, mainly to the United States, Japan, China, and the United Kingdom. The principal commodities exported to the U.S. were petroleum products, and crude oil; for Japan and China it was forest products, grains and other food products.

Table 8-19 shows the value of the marine share of Canada's international trade in 2004.

TABLE 8-18: TOTAL MARINE IMPORTS/EXPORTS BY COUNTRY (2004 VS 2003)

(Billions of dollars)

Country of Export	Exports ¹		Percentage change	Country of Import	Imports		Percentage change
	2003	2004			2003	2004	
United States	12.1	13.6	12.5	China, Peoples Republic	8.8	10.7	21.9
Japan	7.0	7.4	6.5	Japan	7.5	5.5	(26.8)
China, Peoples Republic	4.0	5.9	45.9	Germany	4.3	4.5	3.4
United Kingdom	2.5	2.8	10.0	Norway	3.1	3.9	26.8
Korea, South	1.6	1.8	11.6	Korea, South	2.9	3.4	20.5
Germany	1.7	1.7	(0.3)	United Kingdom	3.3	2.9	(14.2)
Italy	1.4	1.2	(13.3)	United States	3.2	2.7	(14.7)
France	1.3	1.3	(1.8)	Algeria	1.8	2.5	38.0
Netherlands	1.2	1.3	16.3	Italy	2.0	1.9	(7.5)
Norway	0.9	1.5	62.8	France	1.9	1.7	(11.0)
Belgium	1.1	1.2	8.6	Iraq	1.1	1.1	1.9
Taiwan	0.9	1.0	10.0	Taiwan	1.1	1.1	4.2
Hong Kong	0.6	0.8	24.7	Australia	1.1	1.1	3.0
Mexico	0.6	0.7	23.6	Saudi Arabia	0.9	1.2	40.0
Spain	0.5	0.8	42.5	Thailand	1.0	1.0	0.8
Other Countries	10.3	11.1	8.5	Other Countries	16.0	18.3	14.3
Grand Total (Exports)	47.8	54.1	13.4	Grand Total (Imports)	59.8	63.4	6.0

¹ Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

TABLE 8-19: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2004

(Billions of Canadian dollars)

	Marine	All Modes	Marine (per cent)
Transborder			
Exports ¹	13.57	347.89	3.9
Imports	2.69	208.65	1.3
Total U.S.	16.26	556.54	2.9
Other countries			
Exports ¹	40.57	63.68	63.7
Imports	60.67	146.06	41.5
Total	101.24	209.75	48.3

Note: Table may not add up due to rounding.

¹ Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

In 2004, marine traffic with the United States totalled \$16.3 billion, based mainly on exports of 13.6 billion. Nonetheless, this represented only 2.9 per cent of total Canada–U.S. trade. The bulk of the traffic was handled by surface transport modes, such as trucking and rail.

Canada's marine trade with overseas countries (excluding the United States) totalled \$101.2 billion in 2004. Exports accounted for \$40.6 billion of this total, while imports accounted for \$60.7 billion. In terms of value, marine transport accounted for 48 per cent of all overseas trade and was the dominant mode for shipping overseas freight.

Asia, western Europe and the United States are the major areas of exports/imports. The principal commodities exported to foreign countries in 2004 (including the United States) were forest products (\$9.1 billion); gasoline/fuel oils (\$7.2 billion) and grains (\$5.3 billion). Imports consisted of crude petroleum (10.9 billion); textiles, leathers, and end products (\$9.5 billion); automobiles (\$6.3 billion); machinery (\$5.3 billion); and other food products (\$3.1 billion). For more information on the United States and overseas countries and principal commodities exported/imported by value, see Addendum Table A8-18.

*Passenger traffic reached record levels in 2005.
The cessation of JetsGo's operations in 2005 reversed the trend
of low cost carriers' increasing domestic market share.*

MAJOR EVENTS IN 2005

CANADA–U.S. OPEN SKIES

On November 10, 2005, the Governments of Canada and the United States (U.S.) further liberalized the 1995 Canada–U.S. Air Transport Agreement. The new provisions bring the 1995 agreement, which already provides for unrestricted air services between the two countries, into conformity with the U.S. Open Skies model.

The liberalized agreement was negotiated after extensive consultations with Canadian stakeholders and follows through on the pledge made by the Minister of Transport and the U.S. Secretary of Transportation in February 2005 that their departmental officials would discuss opportunities for further air liberalization. It also supports the Security and Prosperity Partnership of North America announced in March 2005.

The most significant amendments in the Open Skies agreement involve liberalizing Canadian air carrier access to the United States' third country markets and vice versa. Potential benefits include: greater access for Canadian passenger and cargo carriers to the large U.S. market as a platform from which to serve third countries; increased pricing flexibility for Canadian and U.S. carriers; more options for Canadian airports to attract U.S. carriers; and lower prices for consumers. These changes are scheduled to come into effect on September 1, 2006.

AIRPORT RENT POLICY REVIEW

On May 9, 2005, Transport Canada announced that the Government of Canada would adopt a new rent policy for federally owned airports. Implementation began January 1, 2006. The new policy is expected to provide close to \$8 billion in rent relief for Canada's airport authorities over the course of their existing leases and will also address inequities in the system. The new rent formula is based on modern commercial leasing principles and is in line with other rent formulas within the Government of Canada and the private sector. The formula uses a progressive scale based on airport gross revenues and provides an equitable rent for both the 21 rent-paying airports across Canada and the taxpayer.

Every National Airport System airport, small, medium or large, stands to benefit financially in every year they are to pay rent. It is anticipated that significant portions of the savings from present and future rent reductions will translate into lower airfares for passengers. In addition to the rent reduction, the government is also forgiving the remaining repayments owed from airport authorities for chattels, such as runway sweepers and snowblowers, worth a total of \$21.9 million.

SMALL AIRPORTS VIABILITY

The Council of Transport Ministers adopted a resolution at their September 2004 meeting stating that the viability of small airports is a shared responsibility. They asked Transport Canada to take the lead to define the mission of small airports and to identify options for future actions. A federal, provincial and territorial task group was created and met several times in 2005. The scope of the study done by the task force included all certified airports in Canada plus airports in the National Airports Policy that changed their status from a certified to a registered

airport since the policy was introduced in 1994 (a total of 362 airports). The information gathered on the airports was analyzed from an airport-system perspective. Both commercial and non-commercial missions of airports were considered. At the Council of Transport Ministers meeting in September 2005, ministers acknowledged progress achieved by the task force and recognized the complexity of the question of small airports viability. Ministers asked the task force to pursue its work with the objective of submitting a report at the Council of Transport Ministers meeting in the fall of 2006.

ELECTRONIC COLLECTION OF AIR TRANSPORTATION STATISTICS

The Electronic Collection of Air Transportation Statistics (ECATS) initiative, which began in April 2003, is now collecting operational air transportation statistics electronically from approximately 220 air carriers serving Canada. Originally expected to collect from 170 identified airlines, the first phase was extended to accommodate the data collection from these new carriers. By collecting the data this way, the initiative is bettering the timeliness of air transportation statistics to industry and government and reducing the reporting burden and associated costs to stakeholders. The initiative remains on schedule and within budget with a completion date of March 31, 2006. The second phase of ECATS began in April 2005 and is currently collecting air cargo information and Passenger Origin and Destination information. Planning for the collection of general aviation and other air carrier information in the second phase of ECATS is well underway. The completion target date for the second phase of ECATS is March 31, 2008.

THIRD-PARTY WAR AND TERRORISM LIABILITIES INDEMNITY

When international insurers withdrew previous levels of coverage following the events of September 11, 2001, the federal government began providing short-term indemnification for third-party war and terrorism liabilities for providers of essential aviation services in Canada. This indemnity remained in effect in 2005 for renewable periods of 90 days. Coverage remained unavailable at reasonable prices even though the insurance markets recovered slightly. Other countries provide similar support to their carriers.

CAPE TOWN CONVENTION AND PROTOCOL

On February 24, 2005, Bill C-4, also known as the *International Interests in Mobile Equipment (aircraft equipment) Act*, received Royal Assent.

This Canadian legislation seeks to implement the Convention on International Interests in Mobile Equipment and the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment, which was signed by Canada in 2004. The Convention and Protocol will facilitate and encourage international asset-based financing (i.e., financing using the value of equipment as security for payment).

On September 28, 2005, sections 11 to 18 of the Act were brought into force. These sections, which contain amendments to the *Bankruptcy and Insolvency Act*, the *Companies' Creditors Arrangement Act* and the *Winding-up and Restructuring Act*, are designed to provide aircraft operators with access to new sources of low-cost financing, thereby reducing financing costs.

The remainder of the Act will be brought into force upon Canada's ratification of the Convention and Protocol.

JETSGO

On March 11, 2005, Jetsgo ceased operating all scheduled and non-scheduled air services and filed for bankruptcy protection with the Quebec Superior Court under the *Companies' Creditors Arrangement Act*.

Shortly after the company filed for bankruptcy, other Canadian carriers operating on the same city-pair routes that Jetsgo served stepped forward to provide assistance to stranded passengers and crews.

On May 13, 2005, after failing to restructure operations, Jetsgo filed for bankruptcy. Following Jetsgo's decision, Transport Canada cancelled the airline's air operator certificate effective May 14, 2005.

PRECLEARANCE

Before flights bound for the United States leave Canada, U.S. border preclearance allows U.S. preclearance officers to examine travellers and their goods for the purposes of customs, immigration, public health, food inspection and plant and animal health before flights depart from Canada for U.S. destinations. Through this system, travellers are treated as domestic passengers upon arrival in the U.S., where they enjoy shorter and easier connections to other U.S. cities, as well

as direct access to U.S. airports that have no customs and immigration inspection facilities. U.S. preclearance is currently in place at seven Canadian airports (Calgary, Edmonton, Montreal, Ottawa, Toronto, Vancouver and Winnipeg). Canada and the U.S. have also agreed to introduce preclearance at the Halifax airport, which is scheduled for October 2006.

In late 2005, officials representing the Canadian and U.S. governments gathered in Ottawa for the first meeting of the Preclearance Consultative Group (PCG), a bi-national working group mandated under the 2001 Preclearance Agreement to review preclearance issues. One of the PCG's primary objectives is to ensure the smooth introduction of preclearance at the Halifax airport.

MULTIPLE DESIGNATION POLICY

In 2005, the Minister awarded two new designations under the 2002 multiple designation policy Air Transat was designated to serve Greece, and SkyService was designated to serve Russia.

BILATERAL AGREEMENTS

Canada has air transport agreements or arrangements with more than 70 bilateral partners. In 2005, the Government of Canada held negotiations with seven countries. New agreements were negotiated with Guyana and the People's Republic of China, and Canada's agreements with Greece, India, and the United States were significantly liberalized. Negotiations with France and Panama were inconclusive.

Temporary air services arrangements with Israel and Singapore were extended, allowing existing air services to continue.

INFRASTRUCTURE

Aerodromes and a civil Air Navigation System (ANS) are both part of Canada's air transportation infrastructure. Since 1994, when the National Airports Policy was introduced, the federal government has been reducing its role in the management, operation and ownership of airports. In turn, Transport Canada's role has shifted from owner and operator to landlord and regulator of Canadian airports. Transport Canada continues to be responsible for the regulation and safety of the ANS, but facility

ownership was transferred to NAV CANADA. These changes promote safety, efficiency, affordability, service integration, innovation and commercialization. The transfer process has been largely completed and updates are posted monthly on the Transport Canada Web site. www.tc.gc.ca/programs/airports/status/menu.htm.

AIRPORTS

There are approximately 1,700 aerodromes in Canada; facilities registered with Transport Canada as aircraft take-off and landing sites. The aerodromes are divided into three categories: water bases for float planes, heliports for helicopters, and land airports for fixed-wing aircraft.

The majority of commercial air activity in Canada takes place at certified land airports. Due to their level of activity or location, these sites are required to meet Transport Canada's airport certification standards.

AIRPORT AUTHORITY REVENUES AND EXPENSES

Airport authorities operate the federally owned National Airports System (NAS) airports under long-term leases, with the exception of the three territorial NAS airports, which are owned and operated by territorial governments, and Kelowna International Airport, which is operated by the City of Kelowna. The airport authorities are incorporated as not-for-profit, non-share capital corporations, with independent and publicly accountable boards of directors.

The financial results from airport authorities for the year ending December 31, 2004, are shown in Table A9-1 in the Addendum.

AIRPORTS CAPITAL ASSISTANCE PROGRAM

In order to help non-NAS airports finance capital projects related to safety, asset protection, and operating cost reduction, Transport Canada provides assistance through the Airports Capital Assistance Program (ACAP). To be eligible for the program, airports must receive a minimum of 1,000 passengers annually, meet airport certification requirements, and not be owned by the federal government. In 2005, the program announced 64 projects for funding at 48 airports at an estimated total of \$52.2 million. Table A9-2 in the Addendum shows the allocation of funds by province since the program began in April 1995. ACAP projects approved in 2005 are listed in Table A9-3 in the Addendum.

AIRPORT IMPROVEMENT FEES

The majority of airport authorities collect Airport Improvement Fees (AIFs) to assist in the financing of their capital expenditures. AIF revenues increased by \$75 million in 2004 and represented approximately 22 per cent of total NAS airport revenues. The majority of AIF charges range from \$10 to \$15 per enplaned passenger. The Greater Toronto Airports Authority also charges an AIF for connecting passengers. Most of these fees are collected through the airlines' ticket systems, with only Greater Moncton Airport Authority collecting its fee directly at the airport. A list of the current AIFs for NAS airports is displayed in Table A9-4 in the Addendum.

FINANCIAL PERFORMANCE OF NAS AIRPORTS

Several large airports experienced significant improvements in passenger volume in 2004, while some of the smaller airports saw only modest passenger increases. Overall NAS airport traffic was up more than 10 per cent over 2003. Operating revenue performance for airport authorities was mixed in 2004, despite the passenger volume gains. One third of airports saw their revenues decline, predominantly as a result of the rationalization of service by airlines (smaller aircraft and/or fewer flights). Another third of authorities showed operating revenue gains between 1 per cent and 10 per cent, and the remaining third had increases in excess of 10 per cent. The airports that showed the greatest growth were the larger NAS airports, where demand for air service rebounded following recent difficult years.

Changes in operating costs were generally kept to reasonable levels, with one quarter of authorities actually reducing their expenditures, half increasing their expenses by less than 10 per cent and the remaining quarter recording operating cost increases greater than 10 per cent. Interest and amortization expenses at two thirds of the airports increased by greater than 10 per cent, as authorities are now expensing interest charges related to their capital development projects. After accounting for all revenues and expenses, four airports were in a deficit position, 14 had surpluses of between \$0 and \$5 million and four had surpluses exceeding \$10 million.

Total cash rent paid by the airport authorities for the 2004 lease year was \$248.2 million. This figure includes the deferral of \$36.9 million in rent by eight authorities as part of the short-term financial relief program announced by the Government of Canada in July 2003.

Capital spending slowed somewhat in 2004, as several airport authorities completed or nearly completed large expansion or renovation projects. Nevertheless, total NAS airport spending on capital infrastructure amounted to \$1.2 billion. Vancouver and Winnipeg are set to embark on long-term projects costing \$1.4 billion and \$450 million respectively. Halifax and Victoria have also announced plans for further airport infrastructure development. A substantial amount of capital infrastructure has been financed through debt. The total long-term debt of NAS airports stood at \$7.9 billion at December 31, 2004.

AIR NAVIGATION SYSTEM

NAV CANADA provides air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. It is a not-for-profit, private corporation that owns and operates Canada's civil air navigation system. NAV CANADA has the right to set and collect customer service charges from aircraft owners and operators. Most customer service charges are applicable to commercial air carriers. For more information on NAV CANADA, visit www.navcanada.ca.

INDUSTRY STRUCTURE

AIRLINES

AIR CANADA FAMILY

The Air Canada family of companies continued to be Canada's largest airline in 2005, earning revenues of \$9.5 billion between October 1, 2004, and September 30, 2005. Air Canada provided service to 12 points in Canada, 33 in the United States and 59 international destinations. It operates a fleet of 201 aircraft and employs an average of 28,500 full-time employees. Air Canada is a founding member of Star Alliance, a consortium of 16 airlines that serve 790 destinations in 138 countries. Less busy domestic and transborder routes are operated by Jazz, which covers 76 destinations, particularly small communities. It employs an average of 3,500 employees and operates a fleet of 90 aircraft. Air Canada placed new orders for 90 regional jets from Bombardier and Embraer. Delivery of the new aircraft began in the fall of 2004 and will continue over a four-year period. Air Canada Vacations offers tour packages to popular destinations. Jetz, Air Canada's jet charter service, offers premium charter service to sports teams and businesses. In addition, three independent local service operators (Air Georgian, Central Mountain Air and Exploits Valley Air Services) offer regional services on behalf of Air Canada.

LOW-COST CARRIERS

A number of low-cost, no frills carriers now provide domestic and transborder air services to Canadians. These carriers have been the source of most traffic growth in Canada, a trend that is echoed around the world. Canada's second-largest airline, WestJet, earned just over \$1 billion in revenues between October 1, 2004, and September 30, 2005. This Calgary-based airline serves 34 cities with 57 aircraft and 4,900 employees. WestJet began scheduled transborder services in the fall of 2004, notably to California and Florida and most recently, Hawaii. WestJet plans to add eleven new aircraft to its fleet in 2006. CanJet, based in Halifax, operates nine aircraft to 15 destinations in eastern North America. In addition to their scheduled services, WestJet and CanJet both offer charter services. A third low-cost airline, Montreal-based Jetsgo, ceased operations on March 11, 2005. The airline announced in May 2005 that it would not be resuming flights as originally planned and is liquidating its assets.

LEISURE CARRIERS

The popularity of leisure destinations — particularly Europe in the summer and the United States or Caribbean in the winter — has lead to a number of airlines focussing their business on the tourist market and offering vacation packages. However, most leisure airlines, which are traditionally charter airlines, now offer scheduled flights in those markets where they have been designated to do so. The main players in this portion of the industry are Air Transat and SkyService Airlines. Montreal-based Air Transat flies 14 aircraft to 90 destinations. Air Transat also offers scheduled services to France and the United Kingdom. SkyService Airlines, based in Mississauga, has a fleet of 20 aircraft and has 1,200 employees. Zoom Airlines provides scheduled services from several cities in Canada to the United Kingdom and France, as well as charter flights to the Caribbean, with four aircraft. Vancouver-based Harmony Airways offers scheduled flights from five Canadian cities to four U.S. destinations, as well as charter services, with four aircraft.

FOREIGN AIRLINES

Twenty Canadian cities are serviced by 25 U.S. airlines, while 43 foreign airlines provide service between Canada (primarily from Montreal, Toronto and Vancouver) and 57 international destinations in 39 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Table A9-5 in the Addendum.

NORTHERN AIRLINES

Year-round scheduled and charter service is provided by several airlines across the three territories with combination passenger and cargo aircraft. The key participants are Air North, Calm Air, Canadian North (incorporated as Air Norterra) and First Air. Other airlines complement these services, such as Aklak Air, Kenn Borek Air and North-Wright Airways, offering flights to the most remote communities in the Arctic. Most airlines in the region also provide Medevac services and other transport under contract to the federal and territorial governments.

LOCAL SERVICE AIRLINES

Remote communities and niche markets across Canada are serviced by smaller local airlines (e.g., Bearskin Airlines' service between points in Ontario, and floatplane and helicopter services in British Columbia). They also operate alternative services in some regional markets (e.g., Hawkair in British Columbia and Provincial Airlines in eastern Canada). Many of these airlines and their major areas of operation are listed in Addendum Table A9-6. Like the airlines serving the Arctic, several provide emergency transport under contract to the federal and provincial governments.

ALL-CARGO AIRLINES

Many all-cargo airlines provide jet service on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers, including Cargojet Canada of Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton.

BUSINESS AND COMMERCIAL AVIATION

The actual number of airlines operating in Canada is much larger than the previous section implies. At the end of 2005, the Canadian Transportation Agency reported that more than 2,300 licences were active. Table A9-7 in the Addendum illustrates the number of licences held as of December 31, 2005. The number of personnel licences issued by Transport Canada confirms the importance of the commercial sector. The number of commercial licences held in 2005 is roughly equal to the number of air transport licences. Addendum Table A9-8 summarizes the number of personnel licences issued, while Table A9-9 provides a provincial breakdown of the licences.

Due to fractional ownership, business aviation continued to grow in 2005. This type of ownership allows individuals or businesses not otherwise permitted to own aircraft on their own to share aircraft use by purchasing units of flight time. Fractional ownership is regulated in Canada as a commercial air service.

Specialty air services include such diverse services as flight training, parachute jumping, glider towing, aerial forest fire management and firefighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and helilogging, as well as hovercraft services — services that do not involve the movement of passengers or cargo. This sector includes some large companies (e.g., Canadian Helicopters), but many are very small operators serving local markets.

RECREATIONAL AVIATION

Recreational flying in its various forms accounted for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada in 2005. It is the largest segment of Canadian civil aviation activity and includes standard planes and other recreational aircraft such as ultra-lights, gliders and balloons, among others. Table A9-10 in the Addendum provides information on the types of aircraft operated.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

Total passenger revenues in 2004 increased by 9.3 per cent. The entire increase was attributed to an increase in demand (9.4 per cent), as prices were virtually unchanged in 2004. These increases in output exceeded declines in 2003 (when SARS and the war in Iraq depressed demand); however, total revenues were still below 2002 levels. While 2004 prices did not increase overall, prices in the transborder segment did increase. Between 1999 and 2004, passengers prices have been flat overall, while demand has decreased slightly (-0.9 per cent). Based on preliminary data, air cargo prices fell by 2.7 per cent during 2004, while output increased by 16 per cent.

Productivity of the air transport industry overall increased by 4.8 per cent in 2004. This improvement was due to increases in both labour and fuel productivity, partially as a result of the trend towards more fuel-efficient aircraft. Productivity of capital declined by 2.8 per cent. This particular measure of productivity is difficult to measure with accuracy in the air transport industry due in part to the treatment of owned and leased assets. Unit costs declined by 6 per cent overall. This was due to a drop in labour unit costs of 17.5 per cent (reflecting labour concessions obtained by Air Canada during the completion of its restructuring) as well as a decline in capital costs of 7.2 per cent (which may also be related to Air Canada's restructuring and more favourable leasing arrangements). However, unit fuel costs continued to climb in 2004, up 15.5 per cent from 2003. Following a drop in 2003, total air transport revenues increased by over \$1 billion, but remained below the peak levels of 2000.

FREIGHT TRANSPORTATION

Air cargo is carried in the belly-hold of passenger aircraft, in passenger/cargo combination or in all-cargo aircraft. There are no restrictions on routing, capacity or price in Canada's deregulated domestic air cargo market. Bilateral air agreements, other international agreements, and national policies govern transborder and international air cargo services. A few all-cargo airlines do provide charter services outside of Canada on behalf of foreign-based airlines but have little presence on their own in international markets; however, a significant amount of cargo is carried in the belly-hold of passenger aircraft.

Many operators in Canada provide dedicated all-cargo service, with a total of 30 aircraft. In addition, Air Canada provides air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for six per cent of Air Canada's revenues in the first three quarters of 2005. In the North, Canadian North and First Air also provide air cargo services, along with numerous other smaller operators.

The volume of goods carried by Canadian air carriers from 1993 to 2004 is illustrated in Table A9-11 in the Addendum. Overall, the number of tonnes carried increased by five per cent in 2004 over 2003, partially reversing the 22 per cent decrease between 2000 and 2003. Operating revenues generated by goods carried by Canadian air carriers are illustrated in Table A9-12 in the Addendum. Between 2003 and 2004, domestic revenues increased by five per cent, while international and transborder revenues (combined) were stable.

Table A9-13 in the Addendum compares the value of goods shipped by air versus other modes. While the value of air cargo trade between Canada and the United States rose steadily between 1997 and 2000, the market has decreased each year between 2000 and 2004, with a decline of \$15.5 billion, or 33 per cent. This loss was more pronounced in the import sector than the export sector. However, in 2005, the downward trend in air cargo seems to have halted with a 1.6 per cent increase reported. Air cargo's share of total Canada-U.S. trade was 5.6 per cent in 2005, down from a high of 8.1 per cent in 2000.

As Table A9-13 in the Addendum also shows, Canada's air trade with countries other than the United States continued to increase significantly, by 11 per cent, in 2005 over 2004. This result can be explained by the surge in exports and imports, which increased by 13 and 9 per cent, respectively in 2005 over 2004. Trade remained import oriented, making up about 59 per cent more than the value of exported goods. The air mode's share of the total value of trade with other countries was 22.6 per cent in 2005, slightly lower than its peak of 23.4 per cent in 2000.

Of goods shipped by air, 84 per cent had eastern provinces as either their origin or destination. As expected, the United States, followed by countries in western Europe and in Asia, were the main markets for air transport trade with Canada. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum. Table A9-15 shows the value of imports and exports shipped by air and by country for the top 25 countries. Table A9-16 in the Addendum breaks out the commodity groups for goods shipped by air. Not surprisingly, high value items such as machinery and electrical equipment, aircraft and transport equipment, and other manufactured goods make up the majority of the goods shipped by air.

PASSENGER TRANSPORTATION

TRAFFIC

Passenger traffic in 2005 reached record levels with over 63 million passengers, a six per cent increase over 2004. As shown in Table 9-1, domestic, transborder and international sectors registered significant growth with increases of four per cent for the domestic sector and seven per cent for the transborder and international sectors.

For a summary of 2004 traffic at the 26 NAS airports, by sector and region, see Table A9-17 in the Addendum.

TABLE 9-1: AIR PASSENGER TRAFFIC, 2001 – 2005

(Thousands of passengers)				
	<i>Domestic</i>	<i>Transborder</i>	<i>International</i>	<i>Total</i>
Air Passengers				
2001	24,994	18,568	13,196	56,758
2002	23,862	17,575	12,930	54,367
2003	25,234	16,858	12,661	54,753
2004	27,362	18,492	14,269	60,123
2005	28,542	19,818	15,329	63,689
Annual Change (Per cent)				
2002/01	(4.5)	(5.3)	(2.0)	(4.2)
2003/02	5.7	(4.1)	(2.1)	0.7
2004/03	8.4	9.7	12.7	9.8
2005/04	4.3	7.2	7.4	5.9

Notes: Data estimated for 2004 and 2005

Passenger Traffic is based on enplaned and deplaned passengers, but results for the domestic sector have been divided by two to avoid double counting of passengers.

Source: Statistics Canada

SERVICES

DOMESTIC

Airlines consolidated their position with the modest expansion in traffic in 2005 and the demise of Jetsgo in March. Air Canada is about halfway through its fleet renewal plan, which will see the addition of 90 new regional jets by the beginning of 2008. Air Canada announced late in the year that it would be leasing an additional eight regional aircraft for a four-year period. As a result of the expansion of the fleet, Air Canada transferred several domestic services to Jazz. Cities affected include Fredericton, Moncton, Quebec City, Regina, Saint John, Saskatoon and Thunder Bay. In addition, Jazz started several new routes in western Canada, restoring capacity that had been cut back in 2004. A new route between Calgary and Fort McMurray was the most notable addition.

Change continued at Hamilton airport with the departure of CanJet Airlines in July 2005. CanJet entered the market in 2004, filling some of the void left when WestJet reduced service. In its place, Air Canada Jazz introduced new service to both Montreal and Ottawa in September. The Montreal service operates four times daily and the Ottawa service three times daily. The new flights are being operated by Jazz with 50-seat regional jets.

Last year, many local service airlines were active, with Air Labrador continuing its expansion in Quebec and introducing a new Quebec–Îles de la Madeleine service via Moncton. However, local service airlines were affected by high fuel prices. Norcanair, which had been serving nine points in Saskatchewan, ceased service in February 2005. Transwest Air continues to provide service to the region. Regional 1 Airlines, which had been serving in Alberta and British Columbia, ceased operations in September 2005. In addition, British Columbia-based Hawkair announced in October that it is seeking to restructure itself under the *Companies' Creditors Arrangement Act*. Hawkair plans to continue operations while under bankruptcy protection.

Addendum Table A9-18 shows a list of new and discontinued domestic services.

TRANSBORDER

WestJet continued its expansion in the transborder sector, adding five more destinations in 2005 in addition to the seven airports that it began serving in 2004. The new points include new seasonal services to Fort Myers and Palm Springs, services from Vancouver to Honolulu and Maui and the introduction of scheduled flights to Las Vegas from six Canadian cities. Many of the services to Las Vegas previously operated as charter services. Air Canada was also active in the Las Vegas market, adding new routes from Calgary and Vancouver, as well as increasing flights from Montreal and Toronto. The cessation of service by Jetsgo in March particularly affected the Florida market; however, other airlines, most notably Air Canada and WestJet, restored much of the lost capacity by year-end.

Despite record load factors, high fuel prices coupled with declining passenger yields prompted Delta Airlines and Northwest Airlines to seek bankruptcy protection in 2005. Two other major carriers, United Airlines and US Airways, were also operating under bankruptcy protection at the time. The affected airlines have responded to the financial situation by reducing capacity within North America, including some routes to Canada. Further reductions in service are expected in 2006 while the U.S. industry restructures. US Airways, having been acquired by America West Airlines, has since emerged from bankruptcy protection. The merged airline is to operate as US Airways. ACE Aviation Holdings, the parent of Air Canada, announced that it would take a seven per cent financial interest in the merged airline.

For more details on both new and discontinued transborder services see Table A9-19 in the Addendum.

INTERNATIONAL

Air Canada continued to develop non-stop services to Asia from Toronto with the addition of year-round service to Beijing and Seoul in 2005. In addition, Air Canada introduced new services to Rome and Santo Domingo. Several foreign airlines started new routes to Canada in 2005. Air India returned to Canada after an eight-year hiatus with new flights between Toronto and Delhi. The thrice-weekly service stops at Amritsar and Birmingham. In addition, Etihad Airways began a thrice-weekly service to Toronto from its base at Abu Dhabi. Other newcomers to the Canadian market include Transaero Airlines with a Montreal–Moscow service and Universal Airlines with services between Hamilton and Guyana. See Addendum Table A9-20 for a list of new and discontinued international services.

COMPETITION

Domestically, the recent trend of low-cost airlines increasing their share of the domestic market was reversed in 2005 with the cessation of operations by Jetsgo. From December 2004 to December 2005, Air Canada's capacity share increased by eight percentage points to 60 per cent, while WestJet's share rose to 29 per cent and CanJet to three per cent. Air Canada increased their share of capacity in all markets except for northern Canada where airlines such as Air North, Canadian North and First Air maintained their position. Although Air Canada's share of domestic capacity increased considerably in 2005, the current figure is far lower than the 79 per cent capacity share it held in December 2001. For further information on domestic market share by airline and by region in December 2005, see tables A9-21 and A9-22 in the Addendum, and for the summarized results of the top 25 domestic markets, see Table A9-23.

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Minister of Transport,
Infrastructure and Communities



Ministre des Transports,
de l'Infrastructure et des Collectivités

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APR 23 2007

Her Excellency the Right Honourable Michaëlle Jean, C.C., C.M.M., C.O.M., C.D.
Governor General of Canada
Rideau Hall
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Ottawa ON K1A 0A1

Excellency:

It is with great pleasure that I submit to your attention the eleventh Annual Report on the state of transportation in Canada. This report is produced in conformity with the statutory requirements outlined in Section 52 of the *Canada Transportation Act*.

The year 2006 had its share of challenges. Pressure on Canada's transportation system came from energy prices and the sustained impact of rapidly growing economies like China on the country's economy as well as its gateways and trade corridors.

The report presents an analysis of the most recent information available and examines the role played by the Canadian transportation system in the production, distribution and consumption of goods and services. It also allows a better understanding of the evolution of transportation demand and of the transportation system in response to changing needs and market conditions.

This eleventh report on the state of the Canadian transportation system, as the previous reports, provides relevant information for policy development, planning and program management.

Yours truly,

The Honourable Lawrence Cannon, P.C., M.P.

Canada

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TRANSPORTATION AND THE ECONOMY

- In 2006, the Canadian economy grew at 2.7 per cent, a slightly slower rate than in 2005.
- Consumer expenditures increased by 4.1 per cent and contributed the most to economic growth.
- During the course of the year, the rise and fall in the price of crude oil drove the rise and fall in the value of the Canadian dollar.
- The Canadian dollar rose to a 28-year high of US\$0.910 on May 10, 2006. The average value of the Canadian dollar against the U.S. dollar increased 6.8 per cent in 2006.
- The value of the Canadian dollar rose by 28 per cent from January 2002 to December 2006.
- The consumer price index (CPI) increased by two per cent in 2006. Energy prices and home ownership replacement costs rose by 5.1 and 4.2 per cent, respectively. Transportation prices rose 2.7 per cent and gasoline prices increased by 5.5 per cent.
- In real terms, personal disposable income per capita increased by 3.7 per cent in 2006.
- Canada's average number of persons employed increased by 1.9 per cent.
- All provinces and territories experienced economic growth in 2006, with Alberta, British Columbia and Manitoba faring better than all other provinces.
- Canada's trade with the United States decreased by one per cent from 2005. Canada's trade with countries other than the United States increased by 10 per cent, driven mostly by imports.
- In terms of value, trucking accounted for 61 per cent of trade with the United States, rail 17 per cent, pipeline 13 per cent, air five per cent and marine four per cent.
- Around 75 per cent of Canada-U.S. trade (in value terms) carried by trucks took place at six border crossing points: Windsor/Ambassador Bridge, Fort Erie and Sarnia, in Ontario, Lacolle in Quebec, Emerson in Manitoba and Pacific Highway in British Columbia.
- In 2006, Canada's trade with countries other than the United States totalled \$257 billion. Imports were more significant than exports and, in terms of both value and volume, marine and air transportation were the two dominant modes for this trade.
- Of Canada's top 20 trade partners, six countries had a two-digit average annual growth rate in their trade with Canada from 1996 to 2006.
- In 2006, China ranked second (\$34.3 billion) and fourth (\$7.7 billion), respectively, in terms of Canada's total imports and exports.
- Tourism expenditures, including expenditures on transportation, were up in 2006. Air transportation expenditures rose 8.3 per cent. In 2006, overall international travel to and from Canada was unchanged as the number of people visiting Canada fell, while the number of Canadians travelling outside Canada rose.
- Transportation energy use increased by 1.8 per cent in 2005. Air used 5.1 per cent more energy in 2005 than in 2004. Rail used 1.3 per cent more energy, while for-hire trucking transportation used 8.1 per cent more.
- In 2006, the annual average price of crude oil per barrel increased by 16.9 per cent, affecting carriers' operating costs and transport service prices.
- The retail prices of road gasoline and diesel rose by 5.8 and 4.5 per cent, respectively, while the increase in rail diesel fuel was estimated at eight per cent and at 15.9 per cent for jet fuel.

- Productivity gains in rail transportation in 2005 were due largely to other materials and services used in the production of commercial rail freight transport services. The gains in air transportation were due to a number of factors. Public transit productivity was down in 2005. Average price increases for most transportation services were driven by increases in fuel costs.
- In 2006, commercial transportation services accounted for 4.3 per cent of Canada's value-added gross domestic product (GDP).
- In 2005, the importance of transportation to provincial/territorial GDP was most significant in Ontario and Quebec. Together, these provinces contributed 54 per cent of commercial transportation activity nationally under GDP.
- Investment in transportation accounted for 2.9 per cent of Canada's GDP in 2006.
- Personal expenditures on transportation represented 8.8 per cent of final domestic demand in Canada in 2005.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2005/06, all levels of government combined spent \$24.2 billion on transportation expenditures net of transfers, \$2.5 billion more than in 2004/05. Federal, provincial and local government expenditures all increased. The largest increase was \$2.0 billion, spent by provincial/territorial governments.
- In 2005/06, all government levels collected \$15.7 billion in permit and licence fees and fuel taxes from transport users, 0.5 per cent more than the previous year.
- In 2005/06, direct federal transport expenses are expected to increase to \$2.2 billion, a 4.6 per cent increase from 2004/05. The federal government's two main categories of transportation expenditures are a) operations and b) safety, security and policy activities.
- In 2006/07, total direct federal subsidies, grants and contributions are expected to grow to \$1,380 million, five per cent, or \$66 million more than in 2005/06.
- Provincial, territorial and local governments spent \$20.8 billion on transportation in 2005/06, roughly 10.8 per cent more than in 2004/05. About 80 per cent of this went to highways and roads.
- In 2005/06, governments spent \$17.4 billion on roads and \$3.3 billion on public transit services. Federal and provincial governments spent \$2.4 billion on air, marine and rail transportation.

TRANSPORTATION SAFETY AND SECURITY

- The most recent public opinion survey continued to indicate that for all four transportation modes, over 96 per cent of Canadians rate transportation in Canada either as *moderately* or *extremely* safe and secure.
- In 2006, Transport Canada maintained its regulatory and safety oversight responsibilities, implemented a number of improvement initiatives, and continued to implement Safety and Security Management Systems in the air, rail and marine industries. In 2006, there were fewer fatalities in the aviation, marine and rail transportation modes. There was an increase in road transportation fatalities in 2005, the most recent year for which information is available. However, the number of reported accidents decreased in the marine, rail and aviation transportation modes in 2006 and increased for the road transportation mode.
 - Rail-related accidents decreased from 1,247 in 2005 to 1,141 in 2006. Fatalities decreased from 103 to 94. Crossing accidents at public automated crossings decreased from 160 to 114, while at public passive crossings, they increased from 71 to 75.
 - In 2005 (latest data), there was a 0.2 per cent increase in road casualty collisions, a 7.3 per cent increase in road-related fatalities and a 0.8 per cent decrease in road-related injuries.
 - There were 396 Canadian vessel accidents in 2006, down from 416 in 2005. As in previous years, the majority of marine accidents were shipping accidents. A total of 12 lives were reported lost in 2006, down from 13 reported the year before and below the previous five-year average of 15.4. A total of 30 confirmed vessel losses were reported. Fishing vessels accounted for 51 per cent of the total reported marine accidents, while commercial vessels accounted for 37 per cent.
 - There were 238 Canadian-registered aircraft involved in reported accidents in 2006, down from 244 in 2005. Of these, 131 involved commercially operated aircraft, while 109 were associated with private/recreational aviation. One commuter operations accident was reported in 2006 and no fatalities. Of the 59 accidents related to air taxi operations, eight were fatal accidents causing 20 fatalities.
 - A total of 370 accidents in the transportation of dangerous goods were reported in 2006, down from 386 in 2005. Also in 2006, six fatalities and 40 injuries resulted from accidents involving dangerous goods. Of these, 17 injuries and one fatality were directly associated with the dangerous goods themselves.

- Transportation security continued to be strengthened in Canada in 2006. Transport Canada continued to take action with other federal departments, other countries and international organizations, labour organizations, industry and other stakeholders.
 - Important aviation security initiatives in 2006 included legislative and regulatory enhancements, programs such as the Aviation Transportation Security Clearance Program, and international initiatives. Security regulations developed in 2006 enhanced pre-board screening to include the prohibition of certain liquids and gels on board aircraft and to enhance access to airports' restricted areas.
 - Amendments to the Marine Transportation Security Regulations were published in the *Canada Gazette*, Part II on November 15, 2006. During the year, the administrative set-up in support of the Marine Transportation Security Regulations was developed.
 - In 2006, the federal government committed \$115 million over five years to enhance the security of Canada's passenger rail and urban transit operators.
 - In 2006, Transport Canada focussed on training and exercising to ensure effective response to all incidents, emergencies and crises affecting the transportation system.
 - Transport Canada continued to share information and best practices, increasing its capabilities to respond in the event of an incident in relation to the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project for the transportation of dangerous goods.
- In 2005, on-road and off-road diesel engines accounted for roughly 70 per cent (off-road diesel alone accounts for 56 per cent) of transportation-related PM_{2.5} emissions and 52 per cent of transportation-related emissions of nitrogen oxides (NO_x). Gasoline engines account for 88 per cent of transportation-related emissions of volatile organic compounds (VOC). Marine transportation is responsible for 49 per cent of transportation-related emissions of sulphur oxides (SO_x).
- In 2004, 758 megatonnes (Mt) of carbon dioxide (CO₂) equivalent were generated by Canadians, of which 190 Mt, or 25 per cent, came from transportation. On-road emissions accounted for 76 per cent of total transportation emissions. Domestic air-transportation emissions accounted for four per cent, rail and domestic marine each for three per cent. Off-road and pipelines accounted for the remaining 15 per cent of total GHG emissions from transportation.
- Between 1990 and 2004, GHG emissions from on-road passenger travel increased by roughly 16 per cent, while from on-road freight transport activity they increased by 73 per cent. The passenger and freight transport activities over the same period increased by 30 and 125 per cent, respectively. This indicates improvement in the GHG intensity over that period.
- At 17 Mt in 2004, aviation is the largest non-road contributor to transportation GHG emissions. The marine sector is the next largest, at nine Mt, but has remained relatively constant from 1990 to 2004. Rail emissions accounted for six Mt, a 15 per cent reduction from 1990.
- On October 21, 2006, a Notice of Intent to develop and implement regulations and other measures to reduce air emissions was published in the *Canada Gazette*. The scope of the regulations includes some off-road vehicles and engines not previously regulated, such as heavy-duty diesel engines used in off-road applications as well as on-road motorcycles, small scooters and mopeds.
- The intent of the government is to regulate the fuel consumption of road motor vehicles under the *Motor Vehicle Fuel Consumption Standard Act*.
- Transport Canada's fourth Sustainable Development Strategy was tabled on December 13, 2006. It addresses seven strategic challenges and 21 specific commitments for action.
- Given that speed impacts both safety and GHG emissions, a research program on the effectiveness of Intelligent Speed Adaptation in helping compliance with speed limits and a review of issues behind mandating speed limiters for trucks have been initiated.

TRANSPORTATION AND THE ENVIRONMENT

- In 2006, the federal government made a commitment to develop a comprehensive Environmental Agenda that encompasses a new approach to address climate change and clean air, with a budgetary allocation of \$2 billion over four years for its implementation. The new approach integrates climate change and clean air. It is made up of early action and investment initiatives and near-term legislative and regulatory actions to limit air pollutants and greenhouse gas (GHG) emissions starting in 2010.

- Budget 2006 announced a non-refundable tax credit to cover a portion of the cost of a monthly pass for commuting with public transport services.
- Federal initiatives were pursued to manage our interaction with the environment, such as Environmental Management Systems, environmental assessments, and integrating environmental and community knowledge in decision making.
- Numerous initiatives were also pursued at the provincial level, touching a broad spectrum of objectives. Examples include some related to public transit systems, to the implementation of new departmental green vehicle fleet policies, and to road salt management policies and their alignment with Environment Canada's guidelines.
- The largest share of rail export volume to the United States originated in Ontario (23 per cent), although this was less than the previous year.
- In 2006, import rail tonnage increased by five per cent to 25.7 million tonnes. Imports of chemicals increased and automotive imports continued to increase.
- Fort Frances and Sarnia, both in Ontario, accounted for 22.4 and 15.6 per cent of rail-exported trade, respectively. Forest products and chemicals were the major commodities exported at these border crossings. In terms of value, the leading border crossing points for imports were Sarnia and Windsor, with automotive products topping the commodities exported through these locations.
- Class I railways moved 101 million tonnes of goods to and from Canadian ports in 2005, up 3.3 per cent from 2004.
- British Columbia, Saskatchewan and Alberta experienced increases in rail-marine exports in 2005. Rail-marine exports decreased overall by 2.9 per cent. Rail-marine imports remained steady at 10.8 million tonnes, with 81 per cent having to do with intermodal traffic. Quebec and Ontario remained the two major destinations for this traffic.
- Intercity rail passenger traffic increased by five per cent in 2005. VIA Rail reported 4.3 per cent more passengers carried.
- The productivity of rail freight carriers increased by 2.4 per cent in 2005, while VIA Rail's productivity increased by 2.1 per cent.

RAIL TRANSPORTATION

- The rail system network remained relatively stable again in 2006. The only track discontinuances (108 kilometres) were in British Columbia and Ontario made by Canadian National railway (CN) and by Canadian Pacific Railway (CPR).
- Approximately 209 kilometres of track were transferred in 2006. A total of 1,131 kilometres of Rail America operations were transferred to CN, and an additional 339 kilometres was the object of a reversion back to CN.
- Of total rail revenues in 2005, 93 per cent were generated by CN, CPR and VIA Rail.
- Class I railways consumed 1,965 million litres of fuel in 2005, slightly more than in 2004 but less than in 1990.
- CN reported a five per cent increase in revenue tonne-kilometres in 2004, while CPR's output increased by almost 8.7 per cent.
- In 2006, rail car loadings decreased to 284 million tonnes. In western Canada, volumes moved by rail remained at 157 million tonnes, while volumes in eastern Canada decreased by 1.4 per cent to 127 million tonnes.
- Shipments of coal and coke decreased to 32.8 million tonnes in 2006, chemicals increased slightly to 15.6 million tonnes, iron ore was steady at 37.5 million tonnes, and forest products were at 48 million tonnes. Grain shipments totalled 31.8 million tonnes, while rail shipments of fertilizer materials decreased to 26.6 million tonnes, and automotive products fell six per cent to 4.6 million tonnes.
- Export rail tonnage increased 2.7 per cent in 2006 to 78 million tonnes.
- Forest products and chemicals were the largest contributors to the rail export tonnage, and exports of grains were up considerably.

ROAD TRANSPORTATION

- With respect to trucking firms, in 2005, general freight carriers accounted for 60 per cent of the for-hire revenues of the industry.
- Truck carriers with annual revenues of \$12 million or more accounted for 55.2 per cent of the trucking revenues generated by trucking firms with at least \$1 million of annual revenues.
- The reported sales of Class 8 trucks (trucks with a gross weight exceeding 15,000 kilograms) reached a record in 2006, with sales of 39,131 vehicles.
- TransForce Income Fund topped the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.

- According to the 2005 Canadian Vehicle Survey, there are 17.9 million (in scope) light vehicles (i.e. gross weight less than 4,500 kilograms) in Canada. This includes 10.3 million passenger cars and station wagons, 2.9 million vehicles listed as vans, 3.3 million pickup trucks and 1.4 million sport utility vehicles (SUVs).
- Vans, SUVs and light trucks accounted for 42 per cent of the light vehicle fleet in 2005. They were driven on average eight per cent more than cars and station wagons (16,700 versus 15,400 kilometres) and had a marginally higher vehicle occupancy ratio (1.86 persons) than cars and station wagons (1.62 persons).
- In 2005, light vehicles, cars and station wagons accounted for 159 billion vehicle-kilometres while vans and light trucks accounted for 1,268 billion vehicle-kilometres.
- In 2005, there was an average of 557 vehicles per 1,000 people in Canada.
- According to the Canadian Vehicle Survey, there were 615,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 321,000 were medium-sized, weighing between 4,500 and 15,000 kilograms. A total of 294,000 were Class 8 (heavy) trucks.
- Ontario (37 per cent), Alberta (25 per cent) and Quebec (13.5 per cent) accounted for over 75 per cent of the heavy truck fleet.
- Heavy trucks accounted for 21.5 billion vehicle-kilometres in 2005, compared with six billion vehicle-kilometres for medium-sized trucks.
- Empty haul movements accounted for 13 per cent of heavy truck vehicle-kilometres in 2005, compared with about five per cent for medium-sized trucks.
- Canadian for-hire trucking firms carried over 80 per cent of total tonnage shipped intraprovincially.
- In 2006, the exports from Canada shipped by trucks totalled \$185.8 billion down from \$188.4 billion in 2005. Imports from the United States shipped by trucks amounted to \$166 billion in 2006, up from \$164.7 billion in 2005.
- In domestic activities, construction materials are the top commodities moved by trucks intraprovincially, followed by agricultural products, primary metals, metal and mineral products, and energy products.
- The main interprovincial trucking flow was the Quebec–Ontario route (both directions), which accounted for \$40.4 billion worth of commodities, or 28 per cent of the total interprovincial trade.
- Five commodity groups represented almost 80 per cent of total exports in 2005: automobiles and transport equipment, machinery and electrical equipment, other manufacturing products, plastics and chemical products, and base metals/articles of base metal. The same five commodity groups represented 87 per cent of imports.
- The busiest transborder trucking routes were Ontario–U.S. central region, Ontario–U.S. south region and Ontario–U.S. northeast region. Combined, they accounted for almost 80 per cent of the shipments.
- Heavy truck activity across the Canada–U.S. border fell about one per cent in 2006 to 12.9 million two-way trips, still below the 2000 peak.
- The revenues of urban transit operators increased by 7.2 per cent in 2005. Overall, total transit output in Canada increased by 2.7 per cent, while prices rose by 3.5 per cent.
- In 2005, total factor productivity of transit systems decreased by 4.3 per cent.

MARINE TRANSPORTATION

- The National Marine and Industrial Council — an industry–government forum — was established in 2004 to enhance dialogue between the federal government and the marine industry, to promote linkages and coordination on marine sector initiatives, and to provide cohesiveness across a core group of federal departments with mandates and interests in marine transportation. The Council has held biannual meetings since its establishment.
- By 2006 year-end, 83 regional/local and remote ports and port facilities remained under Transport Canada's control.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached \$309 million in 2005, down 0.4 per cent from 2004. Vancouver and Montreal accounted for roughly 57 per cent of this total.
- Tonnage handled at CPA ports totalled 250 million tonnes of cargo in 2005.
- In 2005, CPAs handled 54 per cent of total port traffic.
- Of all fishing harbours, 687 were managed by harbour authorities at the end of 2006.
- One of the four pilotage authorities experienced a deficit in 2006, a loss of \$735,000.

- The Canadian Coast Guard's net expenditures in 2005/06 were \$507.4 million.
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 47 million tonnes of traffic in the 2006 season, an increase 3.8 million tonnes over 2005.
- In 2006, international cruise ship traffic decreased at Vancouver but increased at Montreal and Quebec City.
- In 2005, marine freight traffic was estimated at 395 million tonnes, up 2.9 per cent from 2004. This total is made up of 69.5 million tonnes related to domestic flows, 127.4 million tonnes to transborder traffic and 198 million tonnes of other international traffic.
- A total of \$130 billion in trade was handled by marine transportation services, \$69.4 billion in imports and \$60.5 billion in exports.
- Air Canada, with its sister company, Jazz, offered the largest network of national scheduled air services: 12 domestic points, 33 points in the United States and 59 other international destinations served by Air Canada and 69 destinations served by Jazz. WestJet operated the second largest network of air services with 23 Canadian points, 11 U.S. points plus Nassau, Bahamas. There was also a third network operated through an interlining agreement between Canjet and Harmony Airways but Canjet ceased operating scheduled air services in September 2006.
- Canadian leisure carriers providing international services to leisure destinations in 2006 included Air Transat, Skyservice Airlines, Harmony Airways, Zoom Airlines and Sunwing Airlines.
- Airlines providing year-round scheduled and charter services across northern Canada included First Air, Canadian North and Air North. Aklak Air, Kenn Borek Air, Buffalo Airways, Arctic Sunwest, Air Tindi and North-Wright Airways.
- A number of all-cargo airlines provided jet service in 2006 on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers: Cargojet Canada, Kelowna Flightcraft and Morningstar Air Express.
- At the end of 2006, more than 2,311 airline licences were active, an indication of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2006, mainly as a result of fractional ownership.
- Canada's air trade with countries other than the United States increased by 11.8 per cent in 2006.
- The number of tonnes carried by Canadian air carriers decreased by 0.7 per cent in 2005.
- Air passenger traffic in 2006 set record levels at over 683 million passengers, five per cent more than in 2005. Domestic traffic grew by 6.7 per cent, while the transborder and international sectors grew by 3.9 and 4.5 per cent, respectively.
- Air Canada, along with Jazz, provided approximately 61 per cent of the Canadian air carrier industry's overall scheduled capacity in 2006. The share of Air Canada in the overall transborder scheduled capacity was approximately 42 per cent, and 46 per cent in other international air services.

AIR TRANSPORTATION

- Canada's international air transportation policy was modified in May 2006 to allow Canadian air carriers to apply to the Minister of Transport, Infrastructure and Communities for designation to operate international scheduled air services.
- A federal–provincial–territorial task force submitted a report to the Council of Ministers Responsible for Transportation and Highway Safety in September 2006 on the viability of small airports in Canada. The report highlights the missions and roles of small airports, the factors impacting that viability, and a number of options for actions.
- In 2006, Canada's air carriers adopted measures to overcome cost and revenue challenges emanating from matters such as fuel price increases.
- Operating results of airport authorities eroded slightly in 2005 due to a growth in passenger traffic that was insufficient to offset cost increases.
- Capital spending at National Airport System (NAS) airports totalled \$1.2 billion in 2005, 81 per cent of which came from Toronto, Montreal and Vancouver airports.
- In 2005, revenues from airport improvement fees increased by \$87.7 million to reach \$504 million and 24 per cent of total NAS airports revenues.
- In 2006, airports across Canada received \$27 million to fund 41 new projects under the Airports Capital Assistance Program.

*The 2006 Annual Report presents the state of transportation in Canada
with the most current information available.*

The Minister of Transport has a statutory responsibility to table in Parliament, each year, an annual report on the state of transportation in Canada. This responsibility derives from Section 52 of the *Canada Transportation Act* (1996):

“Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

- (a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;
- (b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expenses;
- (c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and
- (d) any other transportation matters the Minister considers appropriate.”

The 2006 Annual Report is the eleventh such report submitted by the Minister since the coming into force of the *Canada Transportation Act*. In producing this report, Transport Canada used the most current data and information available to present an overview of transportation in Canada. The most current data means the most recent year for which data were available, which was not always 2006. While the scope of the report goes beyond the federal transportation responsibilities, limited attention was paid to urban and intermodal transportation matters. The report nevertheless offers a broad, comprehensive coverage of Canada's transportation system.

The annual report Addendum contains more detailed information on subject matters covered in the overview of transportation presented in the report itself. Readers interested in more detailed and/or time series information are invited to consult this Addendum on Transport Canada's Web site at www.tc.gc.ca. Individual references to the Addendum are found either in the text per se or in footnotes to the text or to tables and figures. Information contained in tables or used to produce figures in last year's report are either updated in the report itself or found in tables in the Addendum. In addition, all annual reports since 1996 are accessible at www.tc.gc.ca.

In one way or another, transportation is a part of all social and economic activities. Transportation opens markets to natural resources, agricultural products and manufactured goods, and it supports service industries. It also overcomes the challenges delimited by topography and geography, linking communities and reducing the effects of distances separating people from each other. Such essential roles of transportation reflect its intertwined and interdependent relationships with the economic and social fabrics of our society. But transportation needs evolve over time as circumstances and conditions change.

Changes in economic activities affect transportation demand. The changes can take place at various levels, at the regional or sectoral levels, for example. We must keep in mind that demand for transportation services originates from all sectors of the economy — that is, transportation demand is a derived demand. Changes in trade patterns and activities also affect transportation demand and they force adjustments to the supply of transportation services and to transportation infrastructure to accommodate actual and foreseeable trade-driven changes.

The review of the state of transportation in Canada begins with a review of the performance of the Canadian economy (Chapter 2). The Addendum contains relevant detailed information on employment, trade and tourism as well as on transportation energy consumption.

The most recent information on government transportation spending and revenues is found in Chapter 3, which addresses the Section 52 (b) requirement related to the statutory mandate for the annual report. Some of the government transportation spending is directed at specific transportation system infrastructure assets. It is important to remember that the public sector does not plan nor fully control all expenditures and investments in Canada's transportation system. Nonetheless, this chapter does not cover such expenditures and investments made by the private sector.

Safety and security in the transportation system is reviewed in Chapter 4. The safety of Canada's transportation system remains a fundamental priority for Canada. This chapter gives an up-to-date overview of the most recent accidents and incidents statistics by mode. It also covers the enhancements to security — specifically those made in 2006 — since the increased emphasis placed on security following the events of September 11, 2001.

Transportation and the environment is reviewed in Chapter 5, with special attention given to environmental trends in transportation. This includes the whole aspect related to climate change and an overview of the climate change initiatives. It also reviews environmental management-related matters associated with Transport Canada's responsibilities and activities.

The most recent information on transportation by modes of transportation is presented in chapters 6 to 9. For rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9), the coverage is structured as special events in 2006, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation is regrouped in Chapter 7, with coverage of the same subject matters as found in the three modal chapters.

Most of the data used and presented in this report or in the Addendum came from organizations other than Transport Canada. Such external sources bear the onus for data validation. Transport Canada devoted proper care and attention to data quality and limitations when producing this report, and used footnotes where needed to flag issues. When issues were identified, they were flagged to the "source" of the information. Given the constraint of the statutory deadlines under which this report is produced, an issue was not pursued further if the validity of the information was confirmed. In this report, it is only exceptionally that attempts to circumvent data limitations by estimating were made. The final point to flag to the reader is that the report does not attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY

2

In 2006, as for the previous year, the most significant source of economic growth was consumer expenditures.

CANADIAN ECONOMIC PERFORMANCE

In 2006, Canadian economic growth moderated slightly, as real gross domestic product (GDP) at market prices grew 2.7 per cent, down from 2.9 per cent in 2005 and 3.3 per cent in 2004. Growth was strongest in the first quarter but then eased throughout the year. Both the price of crude oil and the value of the Canadian dollar reached record highs during the year but then both declined. Short-term interest rates rose during the beginning of the year and then remained steady. Domestic demand from consumer expenditures and non-residential construction remained strong but residential construction and net exports were weak. There continued to be very strong economic growth in the western provinces, while the high Canadian dollar and the slowdown in the United States hurt the manufacturing sector in the central provinces.

Consumer expenditures increased 4.1 per cent in 2006, just above the 3.9 per cent increase in 2005, and contributed the most to economic growth. Spending on durable goods and semi-durable goods rose 6.8 per cent and 7.2 per cent, respectively, while spending on purchased transportation rose 4.1 per cent. New motor vehicles sales increased 2.2 per cent, compared with the 3.5 per cent increase in 2005, when purchasers were offered large incentives. There were 227,400 new housing starts, up 0.9 per cent and the second highest in nearly two decades. Investment in residential construction rose 2.4 per cent, compared with increases of 3.2 per cent in 2005 and 7.8 per cent in 2004. Investment in non-residential structures increased 10.7 per cent, about three per cent more than the previous two years. Investment in machinery and equipment grew at 8.0 per cent, the first time in three years it grew at less than 10 per cent. Overall business investment increased 6.7 per cent, down slightly from the previous year. Government spending on goods and services rose 3.4 per cent, while investment by government rose

6.6 per cent; these are similar to the rates of increase in 2005. The international sector was once again a weak area, as exports of goods and services increased at only 1.3 per cent in real terms, while imports increased 5.2 per cent. These figures compare with increases of 2.1 per cent and 7.1 per cent, respectively, in 2005.

Table 2-1 shows economic indicators in Canada for 2006.

TABLE 2-1: ECONOMIC INDICATORS, 2006

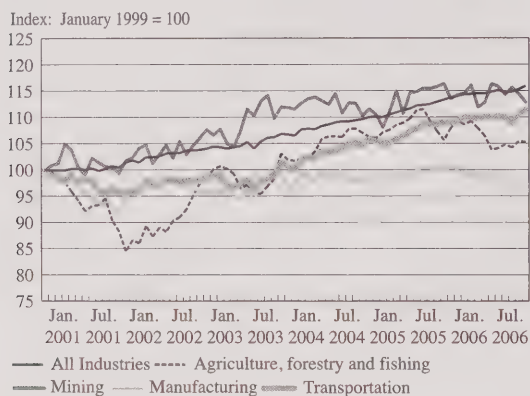
	2006	Percentage change 2005 – 2006	Annual percentage change 2000 – 2005
GDP at Basic Prices (millions of constant 1997 dollars)			
Total Economy	1,100,286	2.9	2.5
Goods	334,384	0.8	1.2
Agriculture	14,115	(0.6)	(0.2)
Forestry	6,803	(3.9)	2.7
Mining	40,127	0.9	2.3
Manufacturing	175,224	(0.7)	(0.3)
Construction	67,619	7.1	5.3
Services	765,902	3.8	3.1
Retail trade	67,296	5.8	4.8
Transportation	45,774	2.8	2.1
Merchandise Trade (millions of dollars)			
Exports	453,570	1.2	1.1
Imports	404,279	4.1	1.4
Income (dollars)			
Personal Disposable Income per capita	25,624	5.1	3.2
Canadian Dollar (U.S. cents per unit)			
	88.2	6.8	4.2
Employment (thousands)	16,484	1.9	1.8
Population (thousands)	32,623	1.0	1.0
Prices			
Total Economy (1997=100)	121.0	2.2	2.3
Consumer Price Index (1992=100)			
All Items	129.9	2.0	2.3
Transportation	154.8	2.7	2.9

Source: Statistics Canada Cat. No. 11-010, 13-001, 15-001, 62-010; Bank of Canada

In 2006, GDP at basic prices by industry grew 2.9 per cent in real terms, the same as in 2005. There was only 0.8 per cent growth in the goods sector, compared with 3.8 per cent in the services sector. The low rate of growth rate in the goods sector was due to the 0.7 per cent decrease in manufacturing output as well as the 0.6 and 3.9 per cent decreases, respectively, in agriculture and forestry. These declines were counterbalanced by advances in the mining sector, which grew 0.9 per cent, and in construction, where output grew by 7.1 per cent. Non-residential construction activity was again stronger than residential activity. Retail trade increased 5.8 per cent, while wholesale trade increased 8.1 per cent. Transportation services output grew only 2.8 per cent, in line with the overall growth of the economy.

Figure 2-1 shows the changes in real GDP since 2001.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 2001 – 2006



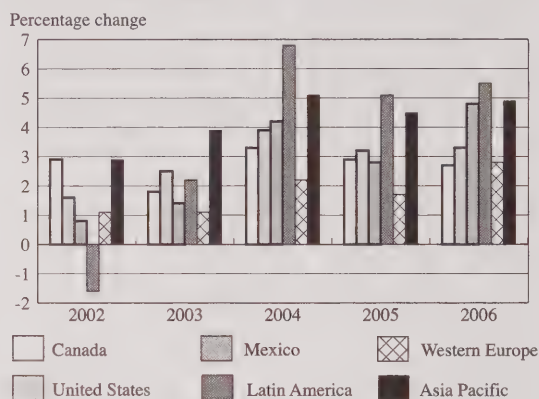
Source: Statistics Canada Cat. No. 15-001

In 2006, the world economy grew 4.0 per cent, up from the 3.5 per cent growth in 2005. The strongest growth was in the first part of the year, as the U.S. economy weakened in the latter part. However, global economic growth was supported not just by the U.S. economy but also by growth in the rest of the world. The U.S. economy grew 3.3 per cent in 2006, compared with 3.2 per cent growth in 2005. Personal consumption expenditures and exports were strong, but a correction in the housing markets resulted in the slowing of the economy in the second half of the year. While exports increased, imports also increased; this resulted in an increase in the U.S. current account deficit. Strong exports to the United States at the start of the year combined with high oil prices and low interest rates meant that the Mexican economy grew 4.8 per cent in 2006, compared with 2.8 per cent growth in 2005. Latin America's economy grew by 5.5 per cent in 2006, up from 5.1 per cent in 2005. Strong commodity prices are the main reason

behind these good growth rates. While Venezuela and Argentina had growth rates of 11.3 per cent and 8.4 per cent, respectively, Brazil's growth rate was only 2.9 per cent. This was due to the country's structural and financial weaknesses. Western Europe had a relatively respectable economic growth rate in 2006 of 2.8 per cent, up from 1.7 per cent in 2005. The recovery was initially due to export growth but it spread to investment expenditures and consumer spending later in the year. The Asia-Pacific region had growth of 4.9 per cent in 2006, up slightly from the previous year. The Japanese economy grew 2.2 per cent, up from 1.9 per cent in 2005 and the fourth year of economic growth at or above 1.5 per cent. With growth of 10.7 per cent, China enjoyed the fourth year of growth at or above 10 per cent. Both the Japanese and Chinese growth has been due to exports and investment.

Figure 2-2 compares Canada's economy with that of other regions from 2002 to 2006.

FIGURE 2-2: REAL GDP: CANADA AND OTHER REGIONS, 2002 – 2006



Note: GDP at market prices.

Source: Global Insight, Statistics Canada Cat. 13-010, U.S. Bureau of Economic Analysis

Merchandise exports on a balance of payments basis increased by 1.2 per cent in 2006 to a record level of \$458.6 billion, while imports increased 4.1 per cent, or four times as fast, to \$404.3 billion. This resulted in a trade balance of \$54.3 billion, the lowest since 1999. Overall energy exports were stable, but falling natural gas prices offset strong crude petroleum exports. Exports of forestry and automotive products fell, while those of agricultural goods, machinery and equipment and industrial goods increased. Exports to the United States fell 1.9 per cent, while exports to the European Union and Japan rose 16.2 per cent and 2.8 per cent, respectively. Imports increased 1.9 per cent from the United States, 9.5 per cent from the European Union and 5.9 per cent from Japan.

The value of Canadian dollar against the U.S. dollar rose in the first part of 2006 from the 2005 close of US\$0.863 to close at a 28-year high of US\$0.910 on May 10. It then fell to close the year at US\$0.852 for a net loss of just one cent U.S. The average value of the Canadian dollar against the U.S. dollar increased 6.8 per cent in 2006 to US\$88.2 and has risen 28 per cent from January 2002 to December 2005. The rise and fall of the Canadian dollar during the year mirrors the rise and fall of the price of crude oil, which rose above US\$77 per barrel in August and then fell to below US\$60 per barrel by September, where it remained for the rest of the year.

General prices in the total economy as measured by the GDP deflator rose 2.2 per cent in 2006, compared with 3.2 per cent in 2005. Consumers paid 2.0 per cent more on average for goods and services in 2006 than they did in 2005; this followed increases of 2.2 per cent in 2005 and 1.9 per cent in 2004. The main factor behind the greater inflation was the increase in energy prices, which rose 5.1 per cent in 2006, an increase of about half the 9.7 per cent increase in 2005. Home ownership replacement costs continued to be a factor behind the general increase in the consumer price index (CPI), as they rose 4.2 per cent following on a 3.1 per cent increase in 2005. Transportation prices rose 2.7 per cent in 2006 after a 4.1 per cent increase in 2005. This reflected a much lower increase in gasoline prices in 2006, only 5.5 per cent, following the 12.8 per cent increase in 2005.

In nominal terms, disposable income per capita rose 5.1 per cent in 2006 compared with 3.2 per cent in 2005. In real terms, disposable income per capita rose 3.7 per cent, more than double the 1.5 per cent increase in 2005. The strong increase in disposable income reflects \$11 billion in tax cuts and transfer payments to households.

The average number of persons employed in Canada rose in 2006 by 1.9 percent for a total of 16.5 million, following a 1.8 per cent increase in 2005. The labour force grew by 1.4 per cent, following a 0.9 per cent increase in 2005. Combined with the employment growth, this pushed the unemployment rate down to 6.3 per cent, the lowest rate since 1974. The mid-year population of Canada rose to 32.6 million, up 1.0 per cent from 2005. The average annual increase of this figure from 2000 to 2005 is also 1.0 per cent.

PROVINCIAL ECONOMIC PERFORMANCE

The dichotomy between the economies of western Canada and central Canada continued in 2006 and was even more pronounced than in 2005. Both Ontario and Quebec had economic growth rates of less than two per cent, while Alberta's growth rate surpassed six per cent.

Labour problems at Voisey's Bay, operational difficulties at the Terra Nova oil field and reduced mining production in Newfoundland and Labrador held back provincial economic growth in 2006. Nonetheless, it was a big improvement from 2005. Agriculture and construction provided growth in an otherwise weak economy in Prince Edward Island. Nova Scotia had the lowest growth among the Atlantic Provinces reflecting lower natural gas production and manufacturing exports. New Brunswick benefited from a recovery in pulp and newsprint prices and from strong manufacturing activity. The service sector fared well in both provinces. While the high Canadian dollar and the U.S. slowdown affected the manufacturing sector and exports from Quebec and Ontario, domestic demand from consumer expenditures and investment provided a counterbalancing weight to their economies. The housing markets declined in both provinces. Manitoba had strong widespread growth in 2006, with construction, agriculture and mining leading the goods-producing sector. Declines in potash and uranium mining, as well as in agriculture due to lack of rain, reduced economic growth in Saskatchewan, despite the increases in construction and manufacturing. Thanks to the energy sector, Alberta had a boom year in 2006. While centered in the oil sands development, this boom spread throughout the economy and resulted in shortages in accommodation and services. This in turn has led to the highest rate of inflation in Canada. British Columbia had the second highest economic growth in 2006. Construction activity was very brisk in both the residential and non-residential sectors as preparation for the Olympics continues, as well as development of transportation infrastructure. The forestry activity was strong, reflecting accelerated harvesting because of pine-beetle damage.

Table 2-2 shows provincial economic performance

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2005/06
(GDP at basic prices in chained \$1997)

	Percentage Change 2005-06	Percentage Change 2000 - 2005
Newfoundland and Labrador	3.1	4.1
Prince Edward Island	2.2	2.2
Nova Scotia	1.3	2.3
New Brunswick	2.9	2.1
Quebec	1.8	2.0
Ontario	2.0	2.2
Manitoba	3.6	1.7
Saskatchewan	0.4	1.7
Alberta	6.7	3.3
British Columbia	3.7	2.9
Territories	2.2	8.8

Source: Statistics Canada, Conference Board of Canada

in 2005/06.

INTERNATIONAL TRADE¹ AND TRADE FLOWS

At the end of 2006, both exports and imports of merchandise had hit a record high since the 2000 peak, reaching \$439 billion and \$393 billion, respectively. Canada's trade surplus (customs) with the United States was strong at \$142 billion, while Canada's trade deficit with other countries reached an all-time record of \$96 billion. This resulted in a consolidated surplus of \$46 billion (similar to the 2003 level).

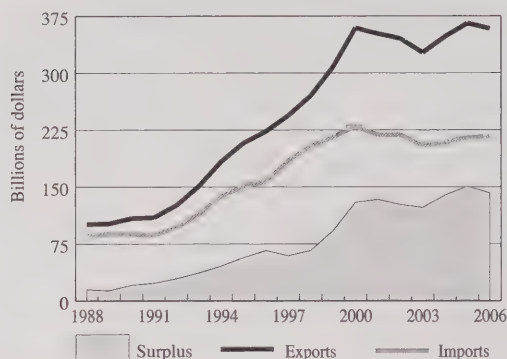
TRADE WITH THE UNITED STATES

In 2006, the United States was by far Canada's most important trading partner, capturing 69 per cent (in value) of Canada's total trade with the world, after a peak of 78 per cent in 1999. Canada's exports to the United States declined slightly in 2006 to 82 per cent of Canada's total exports, after experiencing stable shares of 84 to 86 per cent since 1998. By contrast, Canada's imports share from the United States has continuously decreased from a peak of 68 per cent of total imports in 1998 to a record low of 55 per cent in 2006. As a result, Canada's annual surplus with the United States has enjoyed a lower annual average growth of eight per cent over the last 10 years (1996 – 2006), due mainly to the vitality of Canada's exports² to this country.

Figure 2-3 tracks the value of trade with the United States from 1988 to 2006.

Canada's trade with the United States totalled \$575 billion in 2006, a decrease of one per cent from 2005. Canada–U.S. trade peaked at \$589 billion in 2000. In terms of value, trucks carried 61 per cent of this trade, followed by rail (17 per cent), pipeline (13 per cent), air (5 per cent) and marine (4 per cent). Trucking was the dominant mode for exports (51 per cent) and imports (77 per cent). By volume,³ pipelines ranked first, at 33 per cent (mainly in exports), followed by trucks (31 per cent), rail (18 per cent) and marine (17 per cent).

FIGURE 2-3: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1988 – 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

The most important trade flows between Canada and the United States involved Ontario and the U.S. Central Region,⁴ totalling \$161 billion. This included \$75 billion from and to Michigan alone. Four of the top six Canada–U.S. trade flows involved Ontario. However, out of 14 trade flows, only six flows registered growth in 2006: four involved the Prairie provinces and U.S. regions, the other two being Quebec / U.S. South and Ontario / U.S. Northeast. Around 75 per cent of the Canada–U.S. trade carried by trucks (by value) was concentrated at six border crossing points: Windsor / Ambassador Bridge, Fort Erie and Sarnia in Ontario, Lacolle in Quebec, Emerson in Manitoba and Pacific Highway in British Columbia.

TRADE WITH OTHER COUNTRIES

In 2006, Canada's trade with other countries increased by 10 per cent to \$257 billion. This increase was driven by imports valued at \$177 billion. Canada's trade with other countries has registered increasing deficits especially since 1995, as imports from other countries (mainly Asian countries, led by People's Republic of China) generally exceeded Canada's exports to these countries. In 2006, around 44 per cent of Canada's trade deficit with other countries was linked to Asian countries, compared with 24 per cent in 1995. As Figure 2-4 shows, trade deficits have grown at an annual average rate of 15 per cent in last 10 years (1996 – 2006).

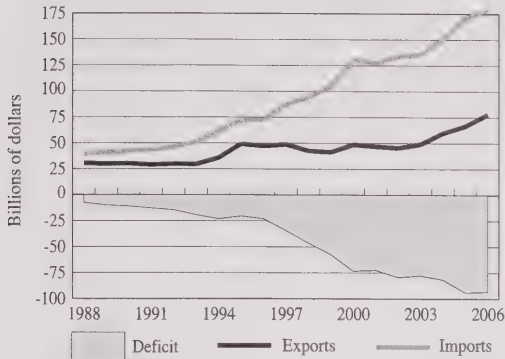
1 Customs-based trade statistics are used in this report, as detailed information on commodity, modes of transport and geographic region is presented on a Customs basis only.

2 Another factor favouring Canada's exports to the United States was the value of the Canadian dollar against the U.S. currency, which made the Canadian goods relatively less expensive to American consumers (especially over the 1994 – 2003 period).

3 2004 modal rankings are applied as 2005/2006 volume trade data are unavailable (under revision).

4 The US Central Region includes states bordering the Great Lakes area i.e., states of Michigan, Ohio, Indiana, Illinois, Wisconsin; also the states of Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND OTHER COUNTRIES, 1988 – 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

In terms of both value and volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with the overseas countries. In 2006, four trade flows accounted for almost 80 per cent of Canada's total trade with countries other than the United States. Cargo exchanges between eastern provinces⁵ and Western Europe ranked first at \$72 billion (\$24 billion in exports, \$48 billion in imports), followed by eastern provinces / Asia trade flows at \$60.4 billion, western provinces / Asia trade flows at \$40.3 billion and Eastern Canada / Latin America (mainly Brazil and Mexico) trade flows at \$32.2 billion. All these flows were heavily import-driven.

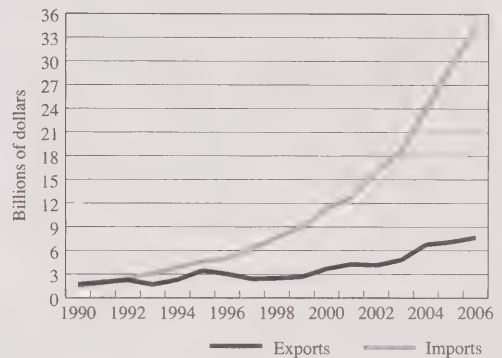
For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

NEW TRENDS

From 1996 to 2006, the average annual growth rate for imports from non-U.S. countries reached 8.9 per cent, double the rate of exports from Canada to these countries at 4.3 per cent. Of Canada's top 20 trade partners in 2006, six countries had a two-digit average annual growth rate over the 1996 – 2006 period: Algeria (21 per cent for Canada's imports); People's Republic of China (21 per cent and 10 per cent for Canada's imports and exports, respectively); India (12 per cent and 17 per cent for Canada's imports and exports, respectively); Brazil (12 per cent for Canada's imports); Mexico (10 per cent and 13 per cent for Canada's imports and exports, respectively); and Ireland (16 per cent for Canada's imports). Addendum Table A2-10 lists Canada's top 25 trade partners in 2006, with appropriate ranking and growth rate.

The People's Republic of China increased trade with Canada and the United States has been a new driving force in North American business, putting more strain on transportation infrastructure and modal logistics. From 2001 to 2006, Canada's exports and imports with China recorded an average annual growth of 12 per cent and 22 per cent, respectively. In 2006, China ranked second (\$34.3 billion) and fourth (\$7.7 billion), respectively, in Canada's total imports and exports from/to the world. As a result, China has surpassed Japan and Mexico as a source of imports for both Canada and the United States. Figure 2-5 illustrates the evolution of Canada's trade with China since 1990.

FIGURE 2-5: VALUE OF GOODS TRADED BETWEEN CANADA AND CHINA (PEOPLES REPUBLIC), 1990 – 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

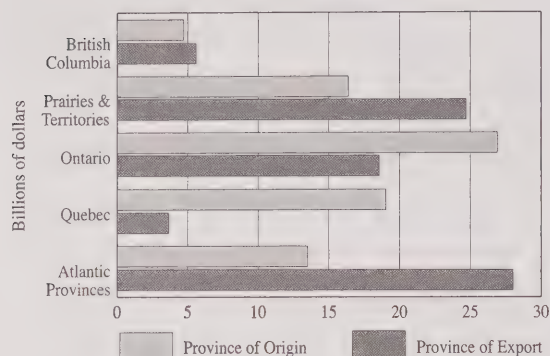
Between 1996 and 2006, marine exports to China almost tripled to reach \$7 billion, while air exports were more than six times their 1996 level, totalling \$830 million. The pattern is similar on the import side, as marine and air imports were four and 13 times their 1996 levels, respectively. As mentioned previously, in addition to China, Mexico, India, Brazil and other countries showed strong growth in a very short time span.

The impact of this increased trade on transportation infrastructure and the modes has been tremendous in recent years. This increased trade has also translated into more containerization, and container congestion has happened in such major west coast ports as Vancouver, Los Angeles and Long Beach. In 2006, Canada's total commodity exports to other countries (excluding the United States) totalled \$80.5 billion. This included \$28 billion (35 per cent) shipped through British Columbia custom points (e.g., marine ports and airports) and

⁵ Eastern provinces include Atlantic provinces, Quebec and Ontario; Western provinces include the Prairies, British Columbia and Territories.

\$24.7 billion (31 per cent) moved through Quebec custom ports. Figure 2-6 shows Canada's exports to countries other than the United States by province of origin versus province of export. It was not possible to derive a similar import perspective from the present trade data.

FIGURE 2-6: CANADA'S TOTAL EXPORTS TO COUNTRIES OTHER THAN THE U.S., BY PROVINCE OF ORIGIN AND EXPORT, 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

Almost 75 per cent of Canada's exports (by value) to Asian countries were shipped through B.C. custom ports, including most of Canada exports to Japan (84 per cent), China (77 per cent) and South Korea (73 per cent). Addendum Table A2-11 shows more details on Canada's exports moved through B.C. custom ports.

AREAS OF IMPORTANCE TO TRANSPORTATION

TRAVEL AND TOURISM

In 2006, overall international travel to and from Canada was just about unchanged from 2005, as the number of people visiting Canada fell while the number of Canadians travelling internationally rose. Americans took 28.9 million trips to Canada in 2006, 8.8 per cent fewer than in 2005. This was the second year of such a decline. Same-day automobile trips by Americans fell 12.5 per cent to 13.7 million trips, the lowest number on record for the second year in a row. Overseas travellers made 4.5 million trips to Canada in 2006, about the same number

as in 2005. There were large increases in visitors from China, Mexico, France and South Korea and large drops in visitors from Japan, the United Kingdom and Germany. Overall, non-resident trips to Canada fell 7.7 per cent in 2006. Canadians made 46.9 million international trips, 6.5 per cent more than in 2005. Trips to the United States rose 6.3 per cent while trips abroad rose 8.0 per cent.

Table 2-3 shows international travel in 2006.

TABLE 2-3: INTERNATIONAL TRAVEL, 2006

	2006	Percentage change from 2005
Trips by Canadians	46,912,299	6.5
To United States	40,173,361	6.3
Automobile	32,758,211	6.1
Same-day	23,460,289	5.3
Overnight	9,297,922	8.2
Airplane	5,600,452	7.9
To all other countries	6,738,938	8.0
Trips by non-residents	33,390,211	(7.7)
by U.S. residents	28,872,674	(8.8)
Automobile	22,064,881	(9.9)
Same-day	13,746,928	(12.5)
Overnight	8,317,953	(5.2)
Airplane	4,175,598	(2.4)
Trips by all other non-residents	4,517,537	0.3
Total international trips	80,302,510	0.1

Source: Statistics Canada cat. No. 66-001

In 2005, Canadians made an estimated total of 207.0 million trips within Canada.⁶ Of these trips, 58.3 per cent were same-day, while 41.7 per cent were overnight. Most trips (92.0 per cent) were made intraprovincially. The automobile or truck was the mode of transportation for 92.8 per cent of the trips, while commercial aircraft and bus accounted for just over two per cent each. Visiting friends and relatives was the purpose of 44.0 per cent of the trips, while the purpose was pleasure for 42.6 per cent and business for 5.0 per cent.

Tourism expenditures in Canada increased 6.7 per cent in 2006 to \$66.9 million, following a 7.2 per cent increase in 2005. Tourism spending by Canadians was once again stronger than spending by foreigners. In 2006, spending by Canadians increased 10.0 per cent, just below the 10.9 per cent increase in 2005. For the second year in a row, foreigners visiting Canada spent less on tourism, 1.8 per cent less in 2006 and 1.3 per cent less in 2005. Tourism spending on transportation increased 8.3 in 2006, based on increased spending on air travel of 10.8 per cent and on motor vehicle travel of 5.6 per cent.

6 Since the beginning of 2005, the Travel Survey of Residents of Canada (TSRC) has been conducted to measure domestic travel in Canada. It replaces the Canadian Travel Survey (CTS). Featuring several definitional changes and a new questionnaire, this survey provides estimates of domestic travel that are more in line with the international guidelines recommended by the World Tourism Organization and the United Nations Statistical Commission. The new survey captures out-of-town trips regardless of distance and same-day trips of at least 40 kilometres from home.

This followed a 12.7 per cent increase in tourism transportation spending in 2005. (Detailed tables on tourism are included in the Addendum.)

EMPLOYMENT

In 2006, there were approximately 881,000⁷ people employed in the transportation sector full-time and part-time. By mode, the trucking and bus transport industries accounted for the greatest numbers of employees, with an estimated 363,000 employees (41 per cent) and 95,000 employees (10 per cent), respectively. Employment in air transportation services has recovered in recent years from its low of 76,600 employees in 2002 to reach 80,100 employees in 2006, close to the 2001 level but still below the 86,000 employees reported in 2000. Since the mid-1990s, the overall level of employment has increased in the bus industry, trucking services,⁸ taxi and limousine services, marine transportation and pipeline transportation. The 2006 estimate of 34,700 employees working in rail services reflects that industry's continuing trend of declining employment. Rail services employed 67,000 in 1990.

For detailed information on employment and salaries in the transportation sector, see tables A2-23 to A2-48 in the Addendum.

ENERGY

In 2004, the price of crude oil had increased by 33 per cent, moving from a 2003 average of US\$42 per barrel to US\$57 (price on the New York Mercantile Exchange (NYMEX)). This increase was fueled by world demand — especially unrelenting demand for motor gasoline in North America — coupled with uneasiness on the markets about future supply of cheap crude oil. In particular, reports started circulating suggesting that Saudi Arabian reserves of sweet crude oil were not as extensive as previously assumed and that future production would have to come from heavier oil, which is more expensive to extract and refine.

These factors remained in place in the first half of 2005, pushing the price on NYMEX over US\$59 per barrel in July (29 per cent over the 2004 average). Hurricane Katrina and the damages it caused to oil rigs and refineries in the American southeast pushed the price to a then record peak of US\$66.12 per barrel in September 2005. After that, following the usual seasonal pattern, the price per barrel fell to US\$58.77 in November 2005.

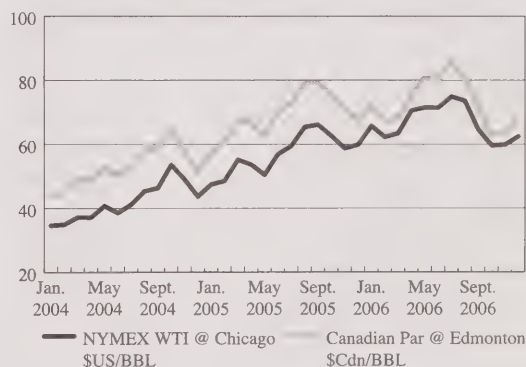
The price of crude oil started to increase again in December 2005 with the arrival of winter and the consequent high demand for heating oil, reaching US\$63.44 in March 2006. Oil price increases were observed in the spring and summer, due to high travel demand. In 2006, this seasonal pattern was accentuated by the fear of new devastations to oil installations during the hurricane season.

As a result, the price of West Texas Intermediate (WTI) on the NYMEX reached an all-time monthly high of US\$74.88 in July 2006. After that peak, the lack of significant hurricanes reassured the markets and the price per barrel fell by over US\$15 to US\$59.65 in October. The milder first portion of the winter in the eastern part of North America also helped accelerate this decline. Minor increases have been registered in the last two months of the year.

The annual average price per barrel rose by 16.9 per cent in 2006, from US\$57.04 in 2005 to US\$66.60 for 2006. By comparison, the average annual price per barrel in 2005 was 57 per cent above that of 2004.

Canadian oil prices have followed a similar pattern, as shown in Figure 2-7.

FIGURE 2-7: PRICE OF CRUDE OIL IN NEW YORK AND EDMONTON, 2004 – 2006



Source: M.J. Ervin & Associates

⁷ This estimate excludes private trucking employment.

⁸ A large increase identified in truck industry employment in 2004 (See Table A2-25 in Addendum), and reflected in that industry's estimated level of employment for 2005, is due to a 12 per cent increase in medium/large for-hire carriers (those earning annual revenues over \$1 million) in 2004 over the carriers counted in 2003.

TABLE 2-4: FUEL PRICES FOR ROAD, RAIL AND AIR MODES, 2003 – 2006

	Road Diesel (Retail)		Motor Gasoline (Retail)		Rail Diesel		Jet Fuel Cost to airlines Levels I – III		Aviation Gasoline Cost to airlines Levels I – III	
	Cents per Litre	Percentage of annual growth	Cents per Litre	Percentage of annual growth	Cents per Litre	Percentage of annual growth	Cents per Litre	Percentage of annual growth	Cents per Litre	Percentage of annual growth
2003	69.11	8.6	73.19	6.3	37.46	4.3	39.21	17.9	74.02	12.5
2004	75.90	9.8	81.31	11.1	39.27	4.8	46.93	19.7	70.78	(4.4)
2205	92.78	22.2	92.31	13.5	53.26	35.6	58.99	25.7	81.76	15.5
2006	96.95	4.5	97.67	5.8	57.44	7.9	68.35	15.9	91.05	11.4

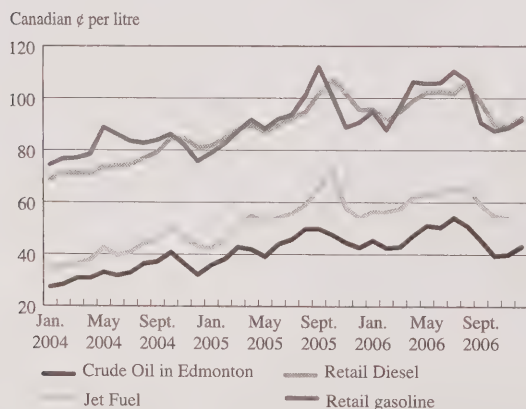
Source: Adapted from M.J. Ervin & Associates, the U.S. Department of Energy and Transport Canada's databases

Figure 2.8 shows the evolution of retail gasoline and diesel prices in Canada, as well as the price of kerosene-based jet fuel to end-users (net of all taxes) converted to Canadian cents per litre, as compared with the price of domestic crude oil in Edmonton. It indicates that the price of transportation fuels has followed a similar pattern to that of crude oil over the last three years. The only exception was the post-Katrina period in 2005 when the United States experienced a shortage of refined products due to the damages incurred at some refineries.

As Table 2.4 shows, the retail prices of road gasoline and diesel rose in 2006 by 5.8 and 4.5 per cent, respectively. This was much less than the respective increases of 13.5 and 22.2 per cent in 2005. The increase in the price of diesel for rail carriers was estimated at about eight per cent in 2006, based on the growth of the retail price of diesel with federal and provincial sales taxes removed.

The 2006 cost of fuel to airlines is estimated on the basis of the U.S. price to end-users as provided by the U.S. Department of Energy. Although the price increases are lower than in 2005, they are still substantial:

FIGURE 2-8: RETAIL FUEL PRICES COMPARED WITH DOMESTIC CRUDE PRICES, 2004 – 2006



Source: M.J. Ervin & Associates

15.9 per cent for jet fuel and 11.4 per cent for aviation gasoline (used only in piston-engine propeller-driven aircraft). These greater increases in the aviation sector are probably due to a vigorous demand for air travel, as described in other parts of this report, which leads to a strong demand for aviation fuels.

Table 2.5 demonstrates that increases in the price of fuel affect carriers' operating costs and the price of transportation services. In this table, the 2005 cost and revenue structures of key transportation industries have been used to estimate the impact of the fuel price increases on total operating costs of transportation services.

TABLE 2-5: FINANCIAL IMPACT OF INCREASES IN FUEL COSTS ON SELECTED TRANSPORTATION SECTORS, 2005 – 2006

	(Millions of dollars)				
	Trucking ¹	CN & CPR	VIA Rail	Urban Transit	Airlines Levels I–III
2005					
Fuel Costs	1,594	1,014	30	370	3,216
Fuel Costs as a % of Operating Expenses	6.4	15.8	7.0	7.7	24.3
Operating Revenues	26,148	8,673	261	2,615	13,982
Total Operating Expenses	24,941	6,440	430	4,784	13,252
Net Revenues	1,208	2,233	(169)	(2,169)	730
Increase in Fuel Costs	72	80	2	17	511
Percentage Increase in Fuel Costs	4.5	7.9	7.9	4.5	15.9
2006 (Estimated)					
Fuel Costs	1,666	1,094	33	387	3,726
Fuel Costs as a % of Operating Expenses	6.7	16.8	7.5	8.1	27.1
Operating Revenues	26,148	8,673	261	2,615	13,982
Total Operating Expenses	25,012	6,520	433	4,801	13,763
Net Revenues	1,136	2,153	(172)	(2,186)	219

Note: Totals may not add up due to rounding.

Table 2-5 shows that an increase in the price of fuels increases the operating expenses of a transportation industry, which in turn decreases its net revenues (assuming that operating revenues remain the same). This direct correlation between increased fuel costs and decreased revenues is made evident by subtracting 2006 net revenues from 2005 net revenues — the difference equals exactly the figures in the row "Increase in Fuel Costs."

¹ Based on financial data for firms with \$1 million or more in revenues.

Source: Estimated by Transport Canada based on Transport Canada's databases on fuel prices and on carriers' revenues and expenditures

- In 2005, fuel costs represented 6.4 per cent of trucking operating expenses (carriers with \$1 million or more in revenues). A 4.5 per cent increase in fuel prices would increase operating costs by 0.29 per cent, thus decreasing net revenues from just over \$1.2 billion to just over \$1.1 billion.
- Fuel costs represented 15.8 per cent of operating expenses incurred by Canadian National and Canadian Pacific Railway. A 7.9 per cent increase in the price of diesel would increase their freight operating costs by 1.2 per cent and decrease net revenues by \$80 million. For rail passenger services, the higher fuel costs would increase operating costs by 0.6 per cent and reduce net revenues by \$3 million.
- Fuel costs represented 7.7 per cent of operating expenses of urban transit service providers in 2005. The estimated 4.5 per cent increase in the price of energy they faced in 2006 would increase their operating costs by 0.3 per cent and reduce revenues by \$17 million.
- The air transport industry, an energy-intensive transportation sector, had fuel costs representing 24.3 per cent of the operating expenses for Class I–III carriers. Based on the price increases of jet fuel, this industry would have faced a 15.9 per cent increase in its fuel costs, translating into a 3.9 per cent increase in its total operating expenses in 2006 and a \$511 million decrease in net revenues.

According to Statistics Canada,⁹ total domestic energy consumption decreased by 0.4 per cent in 2005, from 7,673 to 7,638 petajoules. “One petajoule equals roughly the amount of energy required to operate the Montréal subway system for one year.”¹⁰

In 2005, transportation represented 35 per cent of total energy consumption in the Canadian economy, which is slightly above the average ratio registered since 1997. Preliminary data indicate that total energy use by the transportation sector increased by 2.6 per cent in 2005, explaining this increase in the relative importance of the sector.

Consumption of gasoline for road use fell by 0.5 per cent; on the other hand, consumption of road diesel increased by 5.2 per cent for a net increase of 1.2 per cent in road energy consumption.¹¹ After declines in 2003 and 2004, energy use by the pipeline industry rebounded by

18.6 per cent in 2005, no doubt fueled by the increased demand for Canadian petroleum products on the U.S. markets following the shortages caused by hurricane Katrina.

Fuel consumption increased by 5.1 per cent in the rail industry and by 3.9 per cent in the aviation sector. The marine industry was the only sector — apart from road gasoline sales — to incur a decline in energy use (2.6 per cent). See Addendum tables A2-49 to A2-56 for more on transportation energy consumption.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

In 2005, total factor productivity increased by 2.6 per cent in the rail freight industry (Class I) and by 7.9 per cent in the air industry. Gains in rail resulted primarily from productivity from other materials and services (the residual of labour, fuel and capital), while gains in the air industry were spread among a number of factors. Total factor productivity was up by 2.1 per cent for VIA Rail but down by 4.3 per cent for public transit. Results were not available for the trucking issue due to data issues.

Fuel unit costs (costs per unit of output) increased by 34.4 per cent for the rail freight industry. While fuel consumption was up slightly, the increase in unit costs was due almost entirely to a large increase in fuel prices and the suspension of hedging fuel purchases by the rail carriers. Fuel unit costs also increased in the air industry, by 23.2 per cent. VIA Rail and public transit carriers were also affected by fuel costs, as their fuel unit costs increased by 21 per cent and 17.5 per cent, respectively.

Transport prices were up in many of the industries in 2005. Rail freight prices were up 9.8 per cent, due largely to the inclusion of fuel surcharges. Airline prices increased by 3.6 per cent, while VIA Rail prices were up by 1.7 per cent. Public transit prices increased by 3.5 per cent during the year. Despite the price increases, output (generally measured in terms of passenger-kilometres or tonne-kilometres) also increased in 2005. Output increased by 4.8 per cent in the rail freight industry, 8.2 per cent in the air industry, 4.1 per cent for VIA Rail and 3.6 per cent for public transit. For more information, see tables A2-57 to A2-65 in the Addendum.

9 Statistics Canada, *The Daily / Le Quotidien*, March 16, 2007.

10 Idem, page 1.

11 See the Addendum to this report for more details.

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

VALUE-ADDED OUTPUT OF COMMERCIAL TRANSPORTATION

Value-added estimates¹² of output are available for transportation services that are offered on a commercial or for-hire basis. Such estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

Table 2-6 shows the contribution of the different modes to Canada's GDP in 2006.

In 2006, commercial transportation industries in Canada accounted for \$45.8 billion in 1997 dollars, or 4.3 per cent of the value-added GDP, unchanged from 2004. Trucking was the most important industry, making up \$15.1 billion, or 1.4 per cent of the total GDP. Air and rail accounted for \$4.7 billion, or 0.4 per cent, and \$6.0 billion, or 0.6 per cent, respectively. Urban transit accounted for \$3.2 billion, or 0.3 per cent of GDP.

**TABLE 2-6: COMMERCIAL TRANSPORTATION AS A
PROPORTION OF GDP,¹ 2006**

	<i>Millions of constant 1997 dollars</i>	<i>Per cent of GDP</i>
Industries		
Air	4,713	0.4
Rail	6,046	0.6
Water	1,501	0.1
Truck	15,050	1.4
Urban transit systems	3,198	0.3
Interurban and rural bus	192	0.0
Miscellaneous ground passenger transportation	1,978	0.2
Other transportation ²	13,096	1.2
Transportation industries	45,774	4.3

¹ Gross Domestic Product at Basic Prices.

² Includes scenic and sightseeing, postal and courier services as well as support activities for other modes of transportation such as baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

TRANSPORTATION-RELATED DEMAND

Table 2-7 shows transportation-related demand as a proportion of GDP.

The total of all transportation expenditures for the final demand of goods accounted for 12.1 per cent of expenditures in Canada's economy in 2006. Personal expenditures on transportation represented the largest part of transportation-related demand and accounted for 8.4 per cent of GDP. In 2006, these expenditures grew by 5.3 per cent. Transportation equipment purchases, mostly motor vehicles, made up 3.6 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, made up another 3.7 per cent. Personal expenditures on commercial transportation made up 1.0 per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-65 in the Addendum.

In 2006, investment in transportation made up 2.9 per cent of the GDP. The largest part of this was business investment in transportation, which accounted for 2.2 per cent of GDP. Business transportation investment rose by 8.8 per cent as business investment in transportation equipment inventories rose by 140.3 per cent. Government investment is dominated by expenditures on roads. This accounts for 91 per cent of government investment spending on transportation and 0.6 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

Transportation exports and imports were dominated by automotive trade. In 2006, exports of automotive equipment, including parts, were equivalent to 6.6 per cent of the GDP, while imports were equivalent to 6.9 per cent. Automotive exports fell by 6.0 per cent, while automotive imports rose 1.8 per cent.

Transportation-related domestic demand made up 12.2 per cent of final domestic demand in 2006.

¹² A value-added measure of output is referred to as net output and is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

TABLE 2-7: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2006

	Millions of dollars 2006	Per cent of GDP 2006	Per cent annual growth rate 2005 – 2006	Per cent annual growth rate 2000 – 2005
Personal Expenditures on Transportation	121,076	8.4	5.3	4.3
New and Used Transportation Equipment	51,239	3.6	3.8	2.7
Repair and Maintenance Expenditures	16,546	1.1	5.9	5.9
Transportation Fuels and Lubricants	29,301	2.0	6.0	6.4
Other Motor Vehicle Related Services	9,242	0.6	6.1	7.8
Purchased Commercial Transportation	14,748	1.0	8.6	2.2
Investment in Transportation	41,439	2.9	9.3	N/A
Business Investment in Transportation	32,052	2.2	8.8	N/A
Transportation Infrastructure (roads and railways)	2,347	0.2	5.4	1.8
Transportation Equipment Inventories	27,708	1.9	4.9	3.1
	1,997	0.1	140.3	N/A
Government Investment in Transportation	9,387	0.7	11.0	8.0
Transportation Infrastructure (roads)	8,512	0.6	12.0	8.3
Transportation Equipment	875	0.1	2.9	5.8
Government Spending on Transportation¹	15,745	1.1	(5.9)	5.5
Road Maintenance	9,851	0.7	(9.2)	4.1
Urban Transit Subsidies	3,312	0.2	0.0	7.2
Other Spending	2,581	0.2	(0.6)	9.3
Exports	95,073	6.6	(4.7)	(1.8)
Automotive Products	82,894	5.8	(6.0)	(2.1)
Commercial Transportation	12,179	0.8	4.7	0.8
Imports	98,976	6.9	3.2	1.0
Automotive Products	79,786	5.5	1.8	0.2
Commercial Transportation	19,190	1.3	9.5	4.7
Total Transport-Related Final Demand	174,357	12.1	0.5	N/A
Gross Domestic Product at Market Prices	1,439,291	100.0	4.9	5.0
Transportation-related domestic demand	176,263	12.2	4.5	N/A
Final Domestic Demand	1,393,590	96.8	6.5	5.5

Note: N/A = Not available.

¹ 2005 figures: growth rates over previous year are growth rates over 2004.

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

PROVINCIAL AND TERRITORIAL TRANSPORTATION SPENDING

COMMERCIAL TRANSPORTATION

Table 2-8 shows the importance of provincial and territorial commercial transportation¹³ to the Canadian total in 2005. Most of the commercial transportation activity took place in Ontario and Quebec, which together account for 54 per cent of the total commercial transportation measured in the GDP. Alberta and British Columbia together accounted for another 32 per cent. Alberta's percentage of the national total has grown at the expense of Quebec, Ontario and British Columbia.

TABLE 2-8: COMMERCIAL TRANSPORTATION AS A PER CENT OF GDP BY PROVINCE AND TERRITORY, 2005

	Millions of dollars	Per cent of total Canadian	Per cent of total provincial/territorial
Newfoundland and Labrador ¹	530.3	1.0	3.2
Prince Edward Island ¹	92.6	0.2	2.7
Nova Scotia ^{1,2}	1,059.9	2.1	4.1
New Brunswick ^{1,2}	1,072.6	2.1	5.3
Quebec	9,802.7	19.2	4.2
Ontario	17,940.6	35.1	3.9
Manitoba ¹	2,315.6	4.5	6.7
Saskatchewan	2,188.0	4.3	6.3
Alberta	8,127.4	15.9	5.0
British Columbia	8,450.3	16.5	6.3
Territories ^{1,2}	242.4	0.5	4.2

Note: GDP at basic prices.

¹ Includes warehousing.² Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

PERSONAL TRANSPORTATION

In 2005, Canadians spent \$114.9 billion on personal transportation. Ontario residents spent 39 per cent of this total, Quebec residents 23 per cent, British Columbia residents 13 per cent, and Alberta residents 11 per cent.

Alberta residents spent an average of \$4,291.5 on transportation per capita, the most of any province or territory. Nunavut residents spent the least, only \$1,340. Of the other provinces and territories, only Yukon residents spent more than the national average of \$3,562.

On average, Canadians spent 15.1 per cent of total personal expenditures on transportation in 2005. New Brunswick, Quebec, Alberta and Yukon residents spent more than 15 per cent of their total personal spending on transportation.

13 Due to the unavailability of constant dollar estimates of provincial GDP by industry, only current dollar estimates of transportation are available. The latest year for which they are available is 2003. Due to confidentiality reasons, it is not possible to obtain estimates that do not include warehousing and/or pipelines for 2003. On a national level the pipeline and warehousing industries represented 10.7 and 3.2 per cent of the output of transportation and warehousing sector in 2003.

Personal expenditures on transportation represented 8.8 per cent of final domestic demand in Canada in 2005. It was higher in New Brunswick, Quebec and Ontario but only 6.2 per cent in the Yukon, 3.6 per cent in the Northwest Territories and 2.1 per cent in Nunavut.

Table 2-9 shows personal expenditures on transportation by province and territory in 2005. Addendum Table A2-66 shows personal expenditures on transportation by product type.

TABLE 2-9: PERSONAL EXPENDITURES ON TRANSPORTATION BY PROVINCE AND TERRITORY, 2005

	<i>Millions of dollars</i>	<i>Per capita dollars</i>	<i>Per cent of total provincial/ territorial personal expenditures</i>	<i>Per cent of total Canadian personal transportation expenditures</i>	<i>Per cent of provincial/ territorial final domestic demand</i>
Newfoundland and Labrador	1,525	2,955	14.8	1.3	7.7
Prince Edward Island	423	3,062	14.7	0.4	8.3
Nova Scotia	3,057	3,259	14.7	2.7	8.4
New Brunswick	2,442	3,247	15.8	2.2	9.0
Quebec	26,577	3,498	16.1	23.4	9.5
Ontario	44,568	3,554	14.6	38.8	8.9
Manitoba	3,650	3,100	14.2	3.2	8.4
Saskatchewan	3,054	3,072	13.9	2.7	7.9
Alberta	13,977	4,291	16.1	11.4	7.9
British Columbia	14,620	3,436	14.0	12.9	8.5
Yukon	130	4,182	15.1	0.11	6.2
Northwest Territories	145	3,374	12.0	0.13	3.6
Nunavut	40	1,340	7.9	0.03	2.1
Canada	114,939	3,562	15.1	100.0	8.8

Source: Statistics Canada

GOVERNMENT SPENDING ON TRANSPORTATION

3

*Transportation expenditures by all levels of government
were more than \$24 billion in fiscal year 2005/06.*

This chapter summarizes all transportation expenditures and revenues by level of government and gives an overview of the financial implications of public-sector involvement in transportation. A synopsis of federal and provincial revenues from transportation users is followed by a detailed breakdown of expenditures by level of government. Finally, the chapter presents consolidated expenditures broken down by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

Combined, all levels of government spent approximately \$24.2 billion in 2005/06. This is an 11.4 per cent increase from 2004/05, or \$2.5 billion. Table 3-1 shows government expenditures on transportation since 2002/03. Transportation spending by governments on a per capita basis also increased 10.3 per cent to \$747. While all levels of government contributed to this growth, provincial/territorial governments had the largest increase in net spending at 21.2 per cent, or \$2.0 billion. Local governments increased their net spending by 0.3 per cent, or \$31.8 million. Federal transport expenditures increased by 15.0 per cent, or \$442.1 million to \$3.4 billion, and are expected to increase by 4.8 per cent in 2006/07, or \$161.2 million. All government fees and tax revenues from transport users were up 0.5 per cent in 2005/06, totalling \$15.7 billion. Federal non-tax revenues from transport users are expected to increase by 3.2 per cent in 2006/07 to \$831 million, following an increase of 2.2 per cent in 2005/06. Addendum Table A3-1 shows gross and net expenditures on transportation by governments from 1996/97 to 2005/06.

Figure 3-1 shows the trend in spending by level of government from 1996/97 to 2005/06. Up to 2000/01, total government expenditures averaged around

**TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES
ON TRANSPORTATION, 2002/03 – 2006/07**
(Millions of dollars)

	2002/03	2003/04	2004/05	2005/06	2006/07 ^F
Transport Canada expenses (Gross) ¹	1,352	1,382	1,431	1,516	1,419
Other federal expenses (Gross)	1,164	1,258	1,509	1,866	2,125
Provincial/Territorial ²	8,074	8,502	9,459	11,461	N/A
Local ³	8,531	9,138	9,322	9,354	N/A
Total gross transport expenditures	19,121	20,280	21,721	24,197	N/A
Gross expenditures per capita	608	639	677	747	N/A
Transport Canada revenues	423	334	363	408	415
Other federal revenues ⁴	460	449	425	398	416
Specific tax revenues from transport users ⁵	13,838	14,334	14,802	14,857	N/A

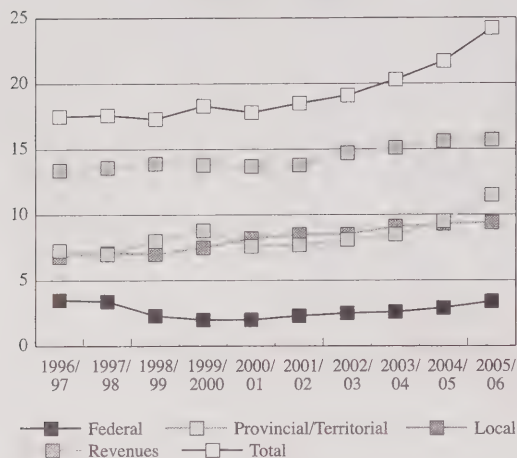
Notes: N/A = Not available. More yearly data are available on Transport Canada Web site (www.tc.gc.ca). Some figures from previous years have been modified and therefore do not match last year's report. Totals may not add up due to rounding.

- 1 Excludes transfers of \$22 million to Crown corporations not involved in transport in 2002/03 and 2003/04.
- 2 Net of federal transfers as reported by the provinces.
- 3 Calendar year basis; net of federal and provincial transfers.
- 4 Revenues from Coast Guard services and small port users.
- 5 Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.
- F Forecast at January 31, 2007, of full year.

Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial Departments of Transportation; Statistics Canada, Public Institutions Division, unpublished data

\$18 billion, but over the past five years have increased with increasing growth rates over the past three years. Other than a slight decline in 1998/99, net local expenditures rose every year over this period. Both net provincial/territorial and federal expenditures have had larger periods of declines. Net provincial/territorial expenditures reached \$8.8 billion in 1999/2000 but then fell to \$7.6 billion in 2000/01. Only in 2004/05 did they surpass the previous peak. The chart shows the strong growth (21.1 per cent) in net provincial/territorial expenditures in 2005/06. Federal expenditures fell from \$3.5 billion in 1996/97 to \$2.0 billion in 1999/2000 and 2000/01, after which they have risen steadily to reach 3.4 billion in 2005/06. Total revenues have also risen each year after hovering around \$13.7 billion until 2001/02.

FIGURE 3-1: GOVERNMENT EXPENDITURES AND REVENUES ON TRANSPORTATION, 1996/97 – 2004/05
(Billions of dollars)



Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial Departments of Transportation; Statistics Canada, Public Institutions Division, unpublished data

FEDERAL EXPENSES RELATED TO TRANSPORT FACILITIES AND SERVICES

The Government of Canada provides modal safety, security and policy services. It also operates roads and bridges, airports, harbours/ports and marine navigational and rescue services (Coast Guard). Transport Canada performs several multimodal activities, ranging from security and emergency preparedness to regulating and monitoring the transport of dangerous goods. Total direct federal transport expenses in 2006/07 are forecast to rise by 4.6 per cent to \$2.2 billion after remaining almost unchanged in 2005/06.

There are two main categories of government activity in transportation. The first is operations, the second safety, security and policy. After decreasing by \$9 million, or 0.9 per cent, in 2005/06, expenses related to operations are expected to increase by \$48.6 million, or 5.0 per cent, to \$1,017 million in 2006/07. Expenditures on safety, security and policy are expected to increase by \$33.6 million, or 3.5 per cent, to \$990 million, resuming the steady increase after the pause in 2005/06. Major increases in recent years are related to commitments to security in the marine and air sectors, particularly by the Canadian Air Transport Security Authority.

Table 3-2 shows federal expenditures on transportation from 2002/03 to 2006/07. Table A3-2 in the Addendum shows expenditures by the federal government from 1996/97 to 2005/06.

TABLE 3-2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 2002/03 – 2006/07

	(Millions of dollars)				
	2002/03	2003/04	2004/05	2005/06	2006/07 ^F
Operations	934	924	978	969	1,017
Airports	56	75	59	45	55
Aircraft services	57	62	65	68	75
Coast Guard	498	505	543	551	566
Ports and harbours ¹	118	126	137	117	129
Roads and bridges ²	193	147	163	179	184
Research and development	13	10	10	9	8
Safety, Security and Policy	686	791	958	957	990
Canadian Air Transport Security Authority	259	351	489	425	441
Air Safety and Policy ³	169	190	173	175	185
Marine Safety and Policy ⁴	59	57	105	136	133
Road and Rail Safety and Policy	53	48	48	50	57
Multimodal Policy and Safety ⁵	146	145	143	167	165
Corporate Services of Transport Canada	131	119	121	142	155
Total	1,750	1,834	2,057	2,068	2,163

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

¹ Includes expenses for small fishing ports by Fisheries and Oceans Canada.

² Includes contributions by Transport Canada to the Champlain and Jacques Cartier Bridges, and expenses of the National Capital Commission, Public Works and Government Services Canada, Parks Canada and Indian and Northern Affairs Canada.

³ Includes expenses of the Civil Aviation Tribunal.

⁴ Includes statutory payments to St. Lawrence Management Corporation for Capital Cash Fund Requirements of \$17.5 million in 2004/05, \$28.0 million in 2005/06 and \$20 million in 2006/07.

⁵ Includes expenses for the regulation and inspection of the transport of dangerous goods, Security and Emergency Preparedness, the Canadian Transportation Agency, and other multimodal safety, policy and analysis.

^F Forecast January 31, 2007 of full year.

Source: Transport Canada

FEDERAL SUBSIDIES TO TRANSPORTATION

Total federal direct subsidies, grants and contributions are projected to be \$1,380 million in 2006/07, an increase of \$66 million, or 5.0 per cent. This is much less than the 49 per cent increase in 2005/06. Subsidies to the air mode are expected to be \$46.5 million, up 14.6 per cent. Marine subsidies are forecast to drop \$84.9 million, or 37.7 per cent, to \$140.5 million. This drop reflects a reduction in planned payments under the Port Divestiture Fund of almost \$60 million and the absence of the one-time payment in 2005/06 of \$35 million to the Toronto Port Authority for a litigation settlement. Subsidies to the rail mode decreased by \$29.0 million, or 13.2 per cent, to \$190.7 million. While payments to VIA Rail are expected to remain constant, other categories of rail expenditures are expected to fall. Highway mode subsidies are expected to rise to \$964.1 million, an increase of \$262.8 million, or 37.5 per cent, in 2006/07, the second year of similar sized increase. Highway agreement payments are scheduled to drop \$73.6 million, the second decrease in a row. Payments by Infrastructure Canada for highways are forecast to increase by \$347.9 million,

following an increase of \$306.1 million in 2005/06. Subsidies for transit systems are forecast to total \$18.4 million in 2006/07, down from \$116.1 million. Table 3-3 gives more details on these subsidies. Table A3-3 in the Addendum gives the same information over a greater time series.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 2002/03 – 2006/07

(Millions of dollars)

	2002/03	2003/04	2004/05	2005/06	2006/07 ^F
Air Mode					
Airport (Operation & Capital)	35.3	38.4	30.6	40.6	46.5
Airport/airline assistance ¹	25.4	4.5	-	-	-
Other	4.7	2.7	9.8	1.7	1.2
Total Air	65.4	45.5	40.3	42.2	47.7
Marine Mode					
Marine Atlantic	46.4	41.6	72.9	70.2	85.0
Transfers to ports ²	22.1	65.7	27.1	61.7	2.3
Other ferry and coastal services	32.2	32.0	33.6	34.2	36.9
Marine security				17.4	15.0
Other ³	7.4	8.3	6.8	41.8	1.3
Total Marine	108.0	147.6	140.3	225.4	140.5
Rail Mode					
VIA Rail	255.7	264.2	191.3	169.0	169.0
Hopper cars	16.0	12.9	12.3	12.0	1.1
Grade Crossings	7.5	7.5	7.4	11.2	3.8
Other	8.6	9.2	20.8	27.5	16.8
Total Rail	287.8	293.8	231.9	219.7	190.7
Highway Modes					
Transition programs ⁴	37.2	33.7	33.6	31.7	10.5
Highway agreements ⁵	101.4	116.2	205.2	157.1	83.5
Infrastructure program	33.7	45.9	132.1	438.3	786.1
Fixed link in					
Prince Edward Island	49.2	51.4	52.0	53.0	53.3
Other ⁶	13.2	15.8	10.3	21.2	30.7
Total Highway Modes	234.8	262.5	434.7	701.4	964.1
Transit Systems⁷					
	66.3	53.5	28.6	116.1	18.4
Grand Total⁸					
	763.6	805.5	883.2	1,314.5	1,380.1

Notes: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

Transport-related expenditures by regional development agencies have been added retroactively.

1 Includes a cabin security enhancement program of \$28 million and \$6 million in 2002/03 and 2003/04, respectively.

2 Includes contributions to the Port Divestiture Fund and \$64 million for the payment of a loan guarantee to Ridley Terminals in 2003/04.

3 Includes a payment of \$35 million to the Toronto Port Authority in 2005/06 for the settlement of civil litigation.

4 Offsets federal programs to the elimination of *Western Grain Transportation Act* programs.

5 Includes \$33 million in 2002/03 and \$78 million in 2003/04 under the Strategic Highways Infrastructure Program.

6 Includes in 2002/03 and 2003/04 the estimated road portion of the Toronto Waterfront Revitalization Project.

7 Spending included previously under Highway Modes.

8 Includes small amounts not classified elsewhere.

F Forecast at January 31, 2007, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Provincial/Territorial Departments of Transportation

DISTRIBUTION OF PROVINCIAL/TERRITORIAL AND LOCAL EXPENDITURE BY JURISDICTION

Provincial/territorial and local governments spent \$20.8 billion on transportation net of transfers from the federal government in 2005/06, up 10.8 per cent from 2004/05. While spending by these two levels of government was of a similar magnitude in 2004/05, provincial/territorial governments spent about \$2 billion more than local governments in 2005/06. Net expenditures by provinces/territories increased by \$2.0 billion (21.1 per cent) to \$11.5 billion, while local net expenditures rose by \$31.8 million (0.3 per cent) to \$9.3 billion.

Local governments accounted for 45 per cent of total provincial/territorial and local government expenditures, down from the average of 51 per cent for the previous five years.

In terms of net expenditures on transportation, the provincial and local governments in Ontario spent the most in 2005/06, at 6.9 billion, or one third of the national total. Quebec spent the next most, at \$4.9 billion (23.6 per cent), followed by British Columbia at \$3.3 billion (15.8 per cent) and Alberta at \$2.8 billion (13.2 per cent).

On a per capita basis, the territories spent the most in 2005/06: the Northwest Territories at \$3,966 per person, Yukon with \$2,814 per person and Nunavut at \$1,583 per person. Provincially, Alberta and British Columbia spent the most, at \$833 and \$768 per person, respectively. The average for all jurisdictions was \$643 per person. Addendum tables A3-5 and A3-6 give further details.

Over past five years, 2001/2002 to 2005/06, provincial/territorial and local governments have spent an average of 5.7 per cent more per year on transportation. All the territories as well as New Brunswick and Quebec have average increases of more than seven per cent.

Federal transfers in 2005/06 accounted for 1.9 per cent of transport spending by local and provincial/territorial governments. Federal transfers were most important for the Northwest Territories and Saskatchewan, where it was equivalent to at least 10 per cent of transport spending.

Spending on highways and roads is the most important category of transport-related expenditures for all provinces/territories. In 2005/06, it accounted for about 80 per cent of total net spending by provincial/territorial and local governments. It has remained about this

percentage for the past five years. Nationally, provincial and local spending in this category accounted for about 38 and 42 per cent, respectively.

Other modes are significant for different provinces/territories. In Newfoundland and Labrador, marine transportation is important, making up 10 per cent of total provincial and local government net transport spending in 2005/06. In the Northwest Territories, spending on air transportation accounted for 23 per cent of transport spending. In the most populous provinces, expenditures on transit are important, accounting for 20.0 per cent in Ontario, 17.3 per cent in British Columbia, 15.0 per cent in Quebec and 12.9 per cent in Alberta in 2005/06. In the other jurisdictions, transit expenditures only accounted for an average of 5.0 per cent of transport spending.

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 2002/03 – 2006/07

(Millions of dollars)

	2002/03	2003/04	2004/05	2005/06	2006/07 ^F
Airport revenues	319	226	253	299	312
Aircraft services	26	23	31	31	34
Air Travellers Security Charge	421	410	383	353	365
Marine revenues ¹	68	72	74	78	83
Leases of hopper cars ²	15	19	16	16	15
Other fees and recoveries ³	33	34	30	29	23
Total	883	783	788	806	831
Federal fuel taxes	4,758	4,873	5,081	5,023	N/A
Public and non-transport use ^{4,5}	383	400	402	413	N/A
Road ⁵	4,163	4,254	4,450	4,370	N/A
Other modes ⁵	212	219	229	240	N/A
Provincial/territorial fuel taxes	7,347	7,700	7,981	8,163	N/A
Sales tax equivalent ^{5,6}	795	863	962	1,091	N/A
Road ⁵	6,292	6,604	6,755	6,797	N/A
Other modes ⁵	261	233	264	275	N/A
Provincial/territorial licences/fees ⁷	2,911	3,024	3,104	3,175	N/A
Total tax revenues from transport users	13,838	14,334	14,802	14,857	N/A
Total tax and fee revenues from transport users	14,721	15,117	15,590	15,663	N/A

Notes: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.

2 Credited to the Consolidated Revenue Fund.

3 Includes air safety fees, other licensing and administrative fees, inter- and intra-departmental transfers for services and various regulatory fees credited to either Transport Canada or the Consolidated Revenue Fund.

4 Estimated fuel taxes from public administrations and mobile users of the public transport system.

5 Estimates by Transport Canada (revised).

6 Estimates based on the sales tax that would have applied to provincial fuel prices.

7 The amounts shown exclude licences and registration fees dedicated to the Société de l'Assurance Automobile du Québec.

F Forecast at January 31, 2007, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Statistics Canada; provincial/territorial departments of transportation

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. The following analysis includes revenues from cost-recovery initiatives credited to the budgets of federal departments and from other sources credited to the federal government's Consolidated Revenue Fund. Revenues collected from transport users include excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees. Table 3-4 highlights government revenues from transport users from 2002/03 to 2006/07. Table A3-4 in the Addendum gives the same information over a greater time series.

In 2005/06, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected \$15.7 billion from transport users through fuel taxes and permit and licence fees. This was a 0.5 per cent increase from the previous year.

At \$11.2 billion in 2005/06, road fuel taxes are the most important component of government tax revenues from transportation. This was a 0.3 per cent decrease from 2004/05. Other fuel tax revenues rose \$22 million in 2005/06 to \$515 million. Total fuel taxes made up 75 per cent of total revenues by transport users.

In 2006/07, federal government transportation revenues other than fuel taxes are expected to be \$831 million, up from \$806 million in 2004/05. The main factors behind this increase are higher airport lease payments. Table 3-4 also shows other federal revenues not credited to transport, such as revenues from the leases of hopper cars or the sale of port assets.

Provincial revenues from licences and fees are expected to be \$3.2 billion, a 2.3 per cent increase.

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

The following summarizes consolidated federal expenses, as well as expenditures by provincial/territorial and local governments, netted of transfers received from other levels of government from 2002/2003 to 2006/07. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period. See Addendum Table A3-5 for the same information over a greater time series.

In 2005/06, total government spending on roads rose 11.9 per cent to \$17.4 billion, following a 7.9 per cent increase in 2004/05. Road spending accounts for 72 per cent of overall spending on transportation. Road expenditures have risen steadily at an average annual rate of 5.8 per cent for the past five years. Revenues from road users were \$14.3 billion in 2005/06 for net expenditures of \$3.1 billion.

Public funding for transit systems was \$3.3 billion in 2005/06, up \$445 million, or 15.5 per cent, and accounted for 13.7 per cent of all government expenditures on transportation.

In 2005/06, the air mode accounted for \$847 million, a drop of \$68 million, or 7.4 per cent. Air mode expenditures made up 3.5 per cent of gross government spending on transportation. In the last five years, air-related public spending has increased at an average annual rate of 14 per cent, reflecting the new initiatives related to safety and security.

In 2005/06, public spending related to the marine mode increased 10.4 per cent to \$1.3 billion. Public spending on marine transportation makes up about five per cent of total government spending.

Also in 2005/06, public spending on rail transportation fell seven per cent to \$274 million, the second consecutive yearly drop. Public spending on rail transportation now makes up only 1.1 per cent of total government spending.

The federal and provincial governments spent \$2.4 billion on the air, marine and rail modes combined in 2005/06, while taking in \$1.3 billion in fees and tax revenues from transport users in these modes.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. This category accounts for about four per cent of government transportation spending. Tables A3-6 and A3-7 in the Addendum detail government spending on transportation by province, and by mode and province, respectively.

TABLE 3-5: TRANSPORT EXPENDITURE/REVENUES BY MODE AND LEVEL OF GOVERNMENT, 2002/03 – 2006/07

(Millions of dollars)					
	2002/03	2003/04	2004/05	2005/06	2006/07 ^F
Federal Operating and Maintenance, Capital and Subsidies¹					
Air	607	724	827	755	805
Marine	783	835	925	1,029	967
Rail	313	315	256	244	215
Road	456	436	622	906	1,180
Transit	66	53	29	116	18
Other/Overhead	290	276	281	332	357
Subtotal	2,516	2,640	2,940	3,382	3,543
Provinces/Territorial/Local²					
Air	78	80	89	92	N/A
Marine	205	240	258	276	N/A
Rail	30	31	37	30	N/A
Road	13,316	14,022	14,976	16,549	N/A
Transit	2,462	2,722	2,838	3,196	N/A
Other/Overhead	513	546	583	672	N/A
Subtotal	16,605	17,640	18,781	20,815	N/A
Total Expenses: All Government Levels					
Air	685	804	915	847	N/A
Marine	988	1,075	1,183	1,305	N/A
Rail	343	347	293	274	N/A
Road	13,773	14,457	15,598	17,454	N/A
Transit	2,529	2,775	2,867	3,312	N/A
Other/Overhead	803	822	864	1,004	N/A
Subtotal	19,121	20,280	21,721	24,197	N/A
Government Revenues From Transport Users³					
Road Users	13,365	13,884	14,311	14,345	N/A
Rail, Air and Marine	1,346	1,220	1,271	1,314	N/A
Multimodal	10	12	7	4	N/A
Total	14,721	15,117	15,590	15,663	N/A

Note: N/A = Not available. More details are available on Transport Canada's Web site (www.tc.gc.ca).

1 From tables 3-2 and 3-3.

2 Transport Canada; provincial/territorial departments of transportation. Many provinces have moved to unconditional grants to local governments, transportation transfers may therefore be underreported. Net expenses by local governments are netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division; data are on a calendar year basis.

3 From Table 3-4.

F Forecast at January 31, 2007, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

TRANSPORTATION SAFETY AND SECURITY

4

Canadians' confidence in transportation security in all modes continued to increase.

There were fewer fatalities in the aviation, marine and rail transportation modes; however, there was an increase in fatalities in the road transportation mode.

The number of reported accidents decreased in the aviation, marine and rail transportation modes and increased for the road transportation mode.

Transport Canada promotes the safety and security of Canada's transportation system. This system is made up of the air, marine, rail and road modes and includes the transportation of dangerous goods. A safe and secure transportation system reduces the likelihood of transportation occurrences that result in the loss or damage to life, health and property. It also enables the efficient flow of people and goods, protects the environment from pollution that can result from occurrences, and is an essential contributor to the health, quality of life and prosperity of all Canadians.

Transport Canada supports this safety and security objective through policy development, rule making, monitoring and enforcement, and outreach activities. It establishes and implements legislation, regulations, standards and policies for all modes of transportation. The department's monitoring and enforcement activities include issuing licences, certificates, registrations and permits; monitoring compliance through audits, inspections and surveillance; and responding appropriately in cases of non-compliance. In particular, the department's inspectors monitor the system to ensure the rules and policies are being followed and, if they have to, enforce them. Transport Canada strives to make transportation system users and industry aware of the requirements and it actively promotes, educates and increases awareness of safety and security issues.

Responsibility for the safety and security of the transportation system is shared by many different stakeholders. Transport Canada collaborates with other federal departments and agencies whose programs and services may be affected by transportation activities. For example, to promote aviation security, the department works with the Canadian Air Transport Security Authority (CATSA), which is responsible for delivering air transport security screening services in accordance with Transport Canada regulations and standards.

Transport Canada also works with provincial, territorial and municipal governments particularly in maintaining the highway system, promoting and enforcing road safety, and co-delivering the Transportation of Dangerous Goods (TDG) program. The department works closely with transportation sector industries, agencies and associations, all of which have a vested interest in transportation infrastructure, the regulatory regime and transportation safety and security.

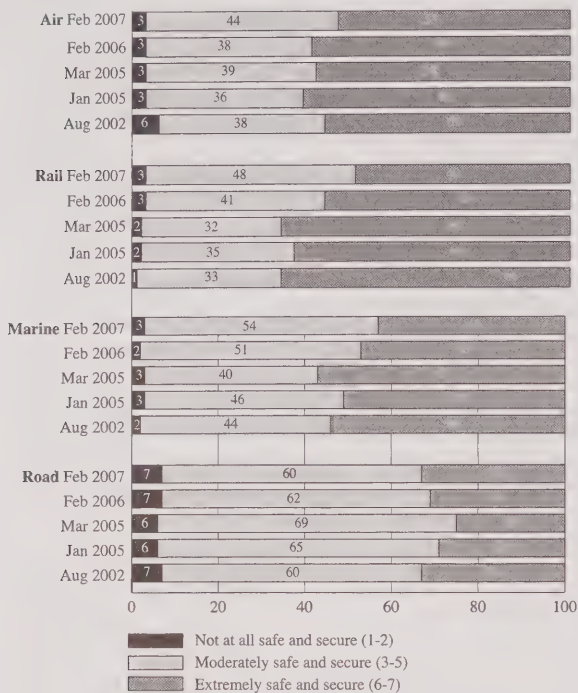
In addition, Transport Canada works internationally to promote Canada's views and values on safety, security and environmental protection, to harmonize safety and security standards, and to share best practices in safety and security systems. For example, Transport Canada collaborates with other countries, such as the United States and Mexico, and with other international partners, such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) in these endeavours.

Canada's transportation system is already one of the safest and most secure in the world. Even so, the country continues to work diligently to further improve the system. Transport Canada measures public confidence in the safety and security of each transportation mode. The data reveal that, in the case of all four transportation modes, at least 96 per cent of those Canadians who have an opinion rate them as either *moderately* or *extremely* safe and secure. Figure 4-1 shows the most recently available ratings (March 2006).

FIGURE 4-1: PUBLIC'S CONFIDENCE RATING OF THE SAFETY AND SECURITY OF AIR, RAIL, MARINE AND ROAD TRAVEL

"Canada's transportation system includes air, rail, road, and marine travel..."

How would you rate the overall SAFETY AND SECURITY of each of the following modes of transportation?"



Source: *Perceptions of Air Travel Safety and Security in Canada: Wave IV, EKOS Research Associates (February 2007)*

A measure of transportation safety is the number of occurrences that result in an accident. In 2006, there were fewer accidents in the aviation, marine and rail modes of transportation and about the same number in the road mode (2005). There were fewer accidents involving the transportation of dangerous goods. Compared with last year and the five-year average, there were fewer fatalities in aviation, marine and rail but more fatalities in road transportation (2005). There was one fatality caused by dangerous goods that involved the transportation of dangerous goods, consistent with the five-year average. With the exception of a few fluctuations in rail, the safety performance record in the three other transportation modes has contributed to a long-term downward trend in accidents reported over the past 10 years.

One of Transport Canada's key evolving strategic directions to further improve transportation safety and security over the long term is the implementation of the Safety and Security Management Systems (SMS/SeMS). The SMS/SeMS are formal frameworks designed to integrate safety and security performance into the daily operations of a transportation enterprise. The rail mode is well on its way to implementing SMS regulations, while the marine mode is moving toward increased adoption for operators of Canadian domestic vessels. New SMS regulations for aviation came into effect in June 2005.

In terms of enhancing transportation security, in 2006, Transport Canada continued a number of activities, including legislative and regulatory enhancements, programs and international initiatives. Transport Canada also actively contributed to such federal government initiatives as the National Security Policy and the Security and Prosperity Partnership.

Canadians are confident in the security of air travel. This confidence continued to increase in 2006. For example, one half (49 per cent) of those surveyed reported having high confidence in the security of air travel. This confidence has been growing since 2002, when only slightly more than one third (36 per cent) expressed confidence. This is an increase in confidence of 13 percentage points over the last three years. Canadians also believe that there are sufficient security procedures in place to protect them. Even if they do not feel immune to the activities of terrorists, they do nevertheless feel confident in the effectiveness of the security measures that have been implemented.

The rest of this chapter reviews developments and initiatives concerning the safety and security of Canada's transportation system during 2006. First, it reviews the 2006 safety records by mode and then discusses and reviews transportation security and the related enhancements undertaken in 2006.

TRANSPORTATION SAFETY

This section reports the most recent safety-related statistics for all federally regulated modes of transportation and for the transportation of dangerous goods. One of the principal sources of safety-related occurrence statistics are the reports of accidents and incidents made to the Transportation Safety Board of Canada (TSB). Accidents are those occurrences that have resulted in the loss of or damage to life, health and property. Incidents, on the other hand, are those occurrences that have the potential to result in an accident. It is important to note that the specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (See the TSB Regulations at www.tsb.gc.ca/en/common/acts.asp for details on aviation, marine and rail.) Data on road collisions are reported to the police and sent to the provinces and territories for data entry/validation. Through an agreement with the Canadian Council of Motor Transport Administrators, the electronic data are provided to Transport Canada to develop the national collision database.

It can take more than a year to compile the high volumes of data for more than 600,000 annual crash case occurrences and release them at the jurisdictional and national levels. Transport Canada is the primary source for the transportation of dangerous goods-related occurrence statistics. (See the TDG Regulations on reporting requirements at www.tc.gc.ca/tdg/clear/part8.htm.) Statistics on safety-related occurrences reflect the transportation system's safety performance and help focus efforts on initiatives and activities that have high safety benefits. At the same time, Transport Canada continues efforts to better align and link safety-related data with its key safety initiatives. In this year's report, these efforts are reflected for aviation where the TSB source data align with the Canadian Aviation Regulations and is linked to aviation safety's key results. (For more information, see Aviation Safety in this chapter.)

In 2006, there were 2.5 per cent fewer aviation accidents than in 2005, 4.8 per cent fewer marine accidents and 8.5 per cent fewer reported rail accidents. The latest available statistics for road casualty collisions (2005) show no appreciable change from 2004 (+0.4 per cent). Accidents involving the transportation of dangerous goods decreased from 386 in 2005 to 370 in 2006.

The safety performance of the transportation system can also be measured by the number of fatalities. In 2006, there were fewer fatalities in the marine, rail and aviation transportation modes than in 2005. However, in 2005 (the most recent statistics), there were 7.3 per cent more road-

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE

	<i>Aviation¹</i>	<i>Marine²</i>	<i>Rail³</i>	<i>Road⁴</i>	<i>TDG⁵</i>
Accidents					
2006	238	396	1,141	N/A	370
2005	244	416	1,247	151,975	386
2004	240	440	1,134	151,437	369
Five-year average (2001 – 2005)	262.6	440.4	1,090.6	156,167	397
Fatalities					
2006	47	16	94	N/A	1
2005	48	19	103	2,925	0
2004	34	27	101	2,725	1
Five-year average (2001 – 2005)	48.6	23.8	95.2	2,826	1

Note: Preliminary data for 2006.

1 Canadian-registered aircraft, other than ultralights, based on the Canadian Aviation Regulations.

2 Canadian-registered and licensed vessels, other than pleasure craft, involved in shipping accidents and accidents aboard ship.

3 Railways under federal jurisdiction.

4 Road statistics relate to 2005 (most recent road safety statistics) and to the 2000 – 2004 five-year averages. Road accidents are casualty collisions, which exclude collisions in which only property is damaged.

5 Accidents where transportation of dangerous goods were involved. Fatality data relate only to those deaths caused by the dangerous goods.

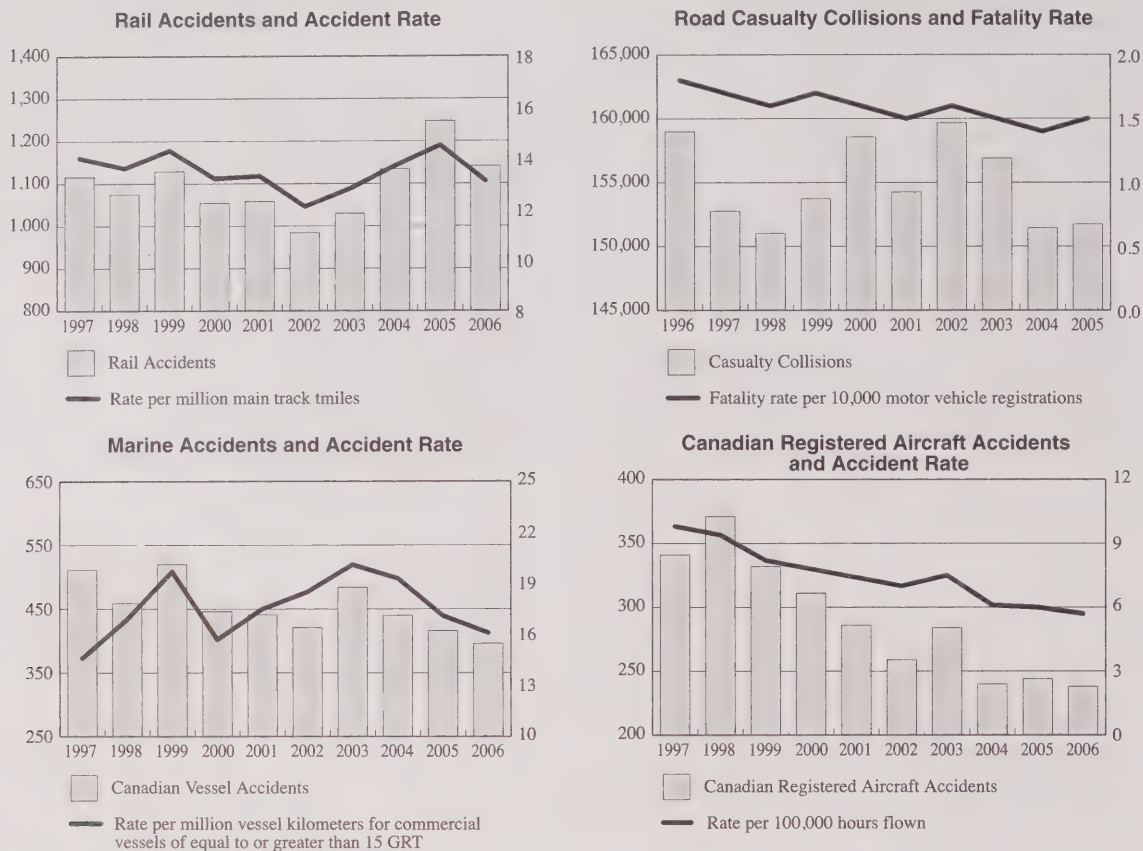
Source: Transportation Safety Board, Transport Canada and Statistics Canada

related fatalities than in 2004. There was also one fatality caused by dangerous goods in a transportation of dangerous goods accident in 2006. Table 4-1 and the more detailed Table A4-1 in the Addendum summarize the modal safety record, including the transportation of dangerous goods.

To ensure that the year-over-year analysis and modal comparisons are complete, both the long-term trends and specifics of each mode, including level of activity and changes in exposure to risk, should be taken into account. That said, overall, accident rates for air in 2006 decreased from both the previous year and the previous five-year average. The accident rate for marine (available only for commercial vessels of over 15 gross tons) has declined over both the 2005 rate and the previous five-year average. Road accidents increased in 2005 and were 2.7 per cent below the average of the past five years.

The 2006 rate for rail accidents was down compared with the last two years and was constant with the five-year average. The rates also capture changes in the levels of activity measures: as the level of activity increases, so does the exposure to risk. Both have contributed to the changes in the number of accidents. Figure 4-2 shows the 10-year trend for the four modes. The trend, despite observed fluctuations from one year to another, is generally downward in terms of both number of accidents and accident rates per activity level. It is important to note that because the activity measure is particular to each mode, these rates are only a basis for interpreting the occurrence statistics within each mode and not for

FIGURE 4-2: ACCIDENTS AND ACCIDENT RATES PER ACTIVITY MEASURE FOR RAIL, ROAD, MARINE AND AVIATION



Source: Transportation Safety Board, Transport Canada and Statistics Canada

comparing across modes. In addition, the available activity measure (denominator), representing to a certain extent all or key operations of modal activities, may have its own set of data limitations. For more details, including information on limitations of data, see Table A4-1 in the Addendum.

RAIL SAFETY

The number of rail accidents decreased from 1,247 in 2005 to 1,141 in 2006 and was 4.5 per cent above the five-year average of 1,091 accidents. The yearly accident rate fell from 13.0 to 11.91 per million train-miles (includes main track train-miles and yard switching-miles) and was relatively constant with the previous five-year average of 11.8.

This decrease in rail accidents was attributed mainly to fewer derailments, both main-track and non-main track: main-track derailments fell from 194 in 2005 to 133 in 2006, while non-main-track derailments fell from 540 to 480. Non-main-track train accidents, either a derailment or a collision, are for the most part minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. In 2006, they accounted for 51.2 per cent of the total train accidents. In 2006, there were 94 fatalities, down from 103 in 2005 and on a par with the previous five-year average. There were 67 serious injuries, down from 77.

In 2006, there were 248 crossing accidents, down eight per cent from 269 in 2005 and still below the five-year average of 260. Fatalities related to crossing accidents also decreased, from 37 to 28. There were 92 trespasser accidents, up 11 per cent from 83 in 2005 and also above the 2001 – 2005 five-year average of 80. Fatalities from trespasser accidents decreased from 64 to 59, up slightly from the previous five-year average of 57. Figure 4-3 shows the trends in crossing and trespasser accidents from 1997 to 2006.

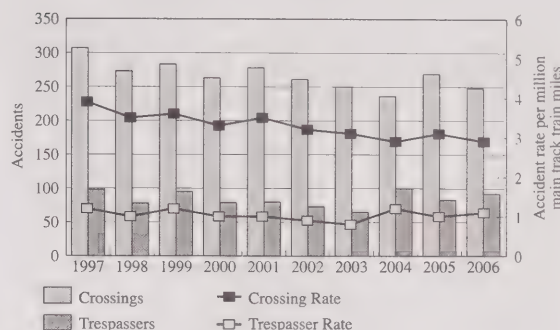
For more details, including a provincial breakdown of accidents, fatalities and serious injuries, as reported to the Transportation Safety Board, and involving railways under federal jurisdiction, see tables A4-2 to A4-4 in the Addendum.

Direction 2006 Initiative — In 1996, Transport Canada and its partners, the Railway Association of Canada, provincial and municipal governments, railway companies and their unions, law enforcement agencies and other safety organizations, joined forces to create Direction 2006. The goal of the program is to promote and implement initiatives that will change human behaviour at grade crossings and with respect to trespassing on railway property. The objective is to reduce railway grade crossing collisions and trespassing incidents by 50 per cent by 2006. This will be accomplished through eight key result areas: education, communications, enforcement, research, resources, outreach, legislation and performance measurement. High proportions of crossing and trespasser accidents are fatal or result in serious injury, and they continue to account for approximately 90 per cent of total fatal and serious injury rail accidents. Direction 2006 in its current form will be ending in the spring of 2007. Transport Canada is considering follow-up outreach initiatives.

For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.

Grade Crossing Improvement Program — Through the Grade Crossing Improvement Program, Transport Canada funds up to 80 per cent of safety enhancement costs at approximately 80 to 100 sites across Canada for a total of up to \$7.5 million each year. Transport Canada has invested more than \$100 million in this program over the past 15 years. While accidents at public passive crossings increased slightly in 2006, from 71 to 75, accidents at public automated crossings decreased from 160 to 114. This represents an overall decrease in accidents at public crossings in 2006. Accidents at private crossings, however, increased from 33 in 2005 to 43 in 2006.

FIGURE 4-3: DIRECTION 2006 – CROSSING AND TRESPASSER ACCIDENTS, 1997 – 2006



Source: Transport Canada, based on Transportation Safety Board data

Safety Management Systems (SMS) — In 2006, Transport Canada continued to work with the railway industry to adopt a comprehensive, systematic approach to railway safety through Railway Safety Management System (RSMS) regulatory audits. The RSMS Regulations came into force on March 31, 2001. They require all federally regulated railway companies to document, implement and maintain a RSMS with mandatory components as outlined in the regulations.

The audits showed that railways have made significant steps toward adopting more formalized approaches to managing safety. However, improvements are necessary to integrate the SMS approach within all operating levels of the railways. Transport Canada will continue to move toward a more focussed, issue-driven audit methodology, with a view to further enhancing industry safety culture.

ROAD SAFETY

Canada's road safety record continues to improve decade after decade. The average number of fatalities for the most recent ten-year period was 24 per cent lower than the 1986 – 1995 average. In 2005 (most recent statistics), there was a slight (0.4 per cent) increase in casualty collisions from 2004. There were 2,925 road user fatalities in 2005, a 7.3 per cent increase over the 2004 total of 2,725. Over the 1998 – 2005 period, fatalities fluctuated from a low of 2,725 in 2004 to a high of 2,985 in 1999. In 2005, there were 1,613 fewer road-related injuries, a 0.8 per cent decrease. Addendum Table A4-5 shows annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries.

The annual changes in these figures may be due in part to changes in vehicular traffic, such as the number of vehicle registrations (up 1.4 per cent in 2005) and vehicle-kilometres travelled (up 1.1 per cent). The casualty collision rate in 2005 was 48.2 per 100 million vehicle-kilometres travelled, down 0.4 points from the 2004 rate of 48.6. The longer-term downward trend in fatalities and total injuries — 426 fewer fatalities and 31,325 fewer injuries in 2005 than in 1995 — has helped reduce the estimated annual social cost to Canadians of up to \$25 billion. While the rate of 1.5 fatalities per 10,000 motor vehicle registrations in 2005 was up 0.1 points over the 2004 rate (itself the lowest rate in the past 10 years and since the 1950s), it is still much lower than the 1.8 rate in 1996 and the 2.3 average for the 1986 – 1995 ten-year period. Fatalities and injuries per billion vehicle-kilometres travelled by provinces/territories are shown in Addendum Table A4-6.

Road Safety Vision 2010 (RSV 2010) — RSV 2010 was introduced by the federal, provincial and territorial governments and the Canadian Council of Motor Transport Administrators. Its strategic objectives are to raise awareness of road safety issues, improve communication, collaboration and cooperation among safety agencies, strengthen enforcement, and improve national road safety data collection and quality. Its national target is a 30 per cent decrease in the average number of road users killed or seriously injured during the 2008 – 2010 period over comparable 1996 – 2001 figures. In 2005, there were 1.4 per cent fewer fatalities and 4.0 per cent fewer serious injuries than the 1996 – 2001 baseline of the RSV 2010. For more information on targets and sub-target areas, see *Road Safety Vision 2010, 2005 Annual Report* at www.tc.gc.ca/roadsafety/vision/menu.htm.

Seat belts — A crucial RSV 2010 sub-target is for at least 95 per cent of Canadians to wear seat belts consistently. Thousands of lives are saved every year by seat belts. In 2005, 34.9 per cent of driver and 35.4 per cent of passenger fatalities were not wearing seat belts. (See Addendum Table A4-7.) The percentages for serious injuries among persons not wearing seat belts were much lower: 14.3 per cent for drivers and 19.9 per cent for passengers. This indicates a relatively higher risk of fatality for those not wearing seat belts in serious road crashes. For more details, see <http://www.tc.gc.ca/roadsafety/tp/tp3322/2005/menu.htm>. Transport Canada conducted a cross-Canada observational survey of seat belt use in rural communities during the daytime in September 2006 following a similar survey in urban communities in

September 2005. The surveys showed that the seat belt wearing rate was lower in rural areas (88.3 per cent) than in urban communities (90.5 per cent). The rate was much lower among occupants of light trucks (about 82 per cent) than occupants of passenger cars (about 90 per cent). The rate was lower for male drivers, by approximately five percentage points, than for female drivers. Only 87.7 per cent of drivers aged 24 and under wore a seat belt, compared with 89.1 per cent of drivers aged 25 to 49 and 90.9 per cent of drivers aged 50 and over. For more information on these surveys, visit <http://www.tc.gc.ca/roadsafety/stats/menu.htm>, as well as Road Safety's main menu for related vehicle restraints and safety studies and programs (e.g. air bags, booster seats for children, child seats on school buses).

Impaired drivers — The percentage of fatally injured drivers who were tested and found with an alcohol concentration rate in their blood over the legal limit of 80 mg% has declined from about 40 per cent in the early 1990s to about 30 per cent in recent years (28 per cent in 2004). (mg% is defined as the weight of alcohol in the bloodstream stated as milligrams in 100 millilitres of blood.) Police-reported charges for impaired driving offences (for adults over 18 years of age) have similarly decreased, from over 111,000 in the early 1990s to 59,666 in 2005 (most recent data). Addendum Table A4-8 shows this downward trend. It is unclear what percentage of these reductions is a result of greater public awareness, tougher penalties or changes in traffic enforcement levels and/or procedures. While the observation of the role of drugs, such as cannabis, as a cause of collision dates back many years, much less is known about the impact of this drug on collisions. Concerns have increased, in Canada and abroad, due to studies revealing that cannabinoids are the drugs most commonly found (after alcohol) in drivers who have been injured or killed in motor vehicle collisions. Risks related to motor vehicle collisions increase in cases where drivers have used both alcohol and cannabis. For more information, see "Impacts of cannabis on driving: An analysis of current evidence with an emphasis on Canadian data" at www.tc.gc.ca/roadsafety/tp/tp14179/menu.htm.

Addendum Table A4-10 shows that of the 2,925 fatalities in 2005, motor vehicle drivers accounted for 52.2 per cent while passengers accounted for 23.3 per cent. Pedestrian fatalities, accounting for 11.8 per cent of total fatalities, decreased from 367 in 2004 to 345 in 2005 and by 12.2 per cent from the most recent ten-year (1995 – 2004) average of 393. Motorcyclist fatalities have increased approximately 50 per cent in the last five years.

As Addendum Table A4-11 shows, of the vehicles involved in fatal collisions between 2001 and 2005, after automobiles, pickup trucks, cargo and panel vans, passenger vans and heavy trucks, were motorcycles (at a distant sixth place, accounting for 5.7 per cent), bicycles (in seventh place) and all buses (at eighth place with less than one per cent of the total). For more statistics on road safety system performance, visit www.tc.gc.ca/roadsafety/stats/menu.htm.

Commercial vehicles — Another key RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles (i.e. heavy trucks and buses). Commercial vehicle drivers accounted for approximately 3.5 per cent of total licensed drivers between 2001 and 2005 (for details, visit <http://www.tc.gc.ca/roadsafety/tp/tp3322/2004/page12.htm>). Compared with passenger vehicles, however, they generally account for a much higher proportion of vehicle-kilometres travelled. From 2001 to 2005, the vehicles (commercial and other) in all collisions (fatal, injury and property damage) involving commercial vehicles accounted for 9.1 per cent of all vehicles involved in road collisions on average and approximately 20 per cent of all road fatalities. In 2005, there were 581 fatalities resulting from collisions involving commercial vehicles, compared with 579 in 2004. For details, see Addendum tables A4-9A and A4-9B.

Because fatigue is a recognized factor in transportation accidents, a key initiative in recent years has been to revise and modernize the hours of service regulations (under the consensus-based National Safety Code Standard #9) to allow trucking and busing companies to better manage the fatigue factor in their operations. In December 2004, government regulators and key players in the Canadian trucking and bus industries reached a consensus on safety rules for extraprovincial commercial vehicle operations. The Commercial Vehicle Drivers Hours of Service Regulations, published in the *Canada Gazette*, Part II, on November 16, 2005, came into effect on January 1, 2007. The regulations are available at <http://canadagazette.gc.ca/partII/2005/20051116/html/sor313-e.html>. Transport Canada has an ongoing research program on human performance and fatigue management. In 2004, a prototype fatigue management program for commercial drivers was developed to train drivers, dispatchers and company managers about ways to avoid fatigue and to get the best possible rest at home or on the road. The program underwent field trials in 2006 under a 2003 joint research agreement between Transport Canada and Canadian provincial and U.S. authorities. For information on human performance research, see <http://www.tc.gc.ca/tdc/projects/hfactors/menu.htm>.

Transport Canada also implemented legislative and regulatory changes on January 1, 2006, that establish a common approach to monitoring and measuring truck and bus safety performance across Canada. The new safety rating system, which is enforced by the provinces and territories, addresses driver, vehicle and motor carrier performance, including maintenance practices and the collision record. For more information, visit the Transport Canada Web site at www.tc.gc.ca/acts-regulations/general/M/mvta/regulations/mvta004/mvta4.html/.

Transport Canada also instituted a "Share the Road" Web site in December 2005 to help Canadians in sharing the road with commercial vehicles. The Web site provides important safety tips for both commercial and non-commercial vehicle drivers. For more information, visit <http://www.tc.gc.ca/roadsafety/ShareTheRoad/menu.htm>.

MARINE SAFETY

There were five per cent fewer marine accidents involving Canadian-registered vessels in 2006 (396) than in 2005 (416). This was another record low and was 10 per cent lower than the previous five-year average.

Marine accident statistics include shipping accidents and accidents aboard ships. Historically, shipping accidents account for the majority of marine accidents, and 2006 was no exception, with 358 shipping accidents or 90 per cent of the total. Still, this was five per cent fewer than in 2005 and 10 per cent fewer than the previous five-year average. There were 12 fatalities from shipping accidents, down from 13 in 2005 and below the five-year average of 15.4, and 26 injuries resulting from these accidents, compared with 25 in 2005 and 31.4 for the five-year average. There were 30 vessels confirmed lost due to a shipping accident in 2006, down seven per cent from the previous five-year average of 32.4. Of the 385 Canadian vessels involved in a shipping accident, which includes those where more than one vessel was involved (e.g. collision between vessels), fishing vessels accounted for 51 per cent and commercial vessels for 37 per cent.

The rest of the Canadian vessel accidents were those aboard ship. In 2006, there were 38 such accidents, down from 40 in 2005 and below the five-year average of 42.6. Four fatalities resulted, down from six and below the five-year average of eight. The 39 injuries resulting from the accidents were close to the five-year average of 38.4.

For more details on marine accidents, including a provincial breakdown of occurrences, which take into account foreign vessels inside Canadian waters (not included in the above figures but reported to the Transportation Safety Board), see Addendum tables A4-12 and A4-13.

There are approximately 27,284 registered and 10,304 licensed vessels in Canada (excluding recreational) for a total of 37,588. The majority of these vessels, 62 per cent, are fishing vessels. Of the 14,369 commercial vessels, 71 per cent are less than 15 gross tons. For details on registered vessels, see <http://www.tc.gc.ca/ShipRegistry/menu.asp?lang=e>.

One of the key commitments in Marine Safety's Strategic Plan 2003 – 2010 is to reach specific safety targets by 2010, based on the 1998 – 2002 five-year averages for Canadian and foreign vessels. These safety targets are focussed on the number of fatalities (a 20 per cent reduction from 34.00 to 27.20), injuries (a 30 per cent reduction from 81.20 to 56.84) and the Canadian- and foreign-flag commercial accident rates (a 20 per cent reduction from 3.14 to 2.51 and from 2.10 to 1.68, respectively). The greatest progress against the safety goals in 2006 was shown in the fatality reduction target that exceeded 100 per cent. For more information on the plan and safety targets, visit www.tc.gc.ca/MarineSafety/tptp13111/menu.htm.

Small commercial vessels (≤150 gross tons) — In 2006, there were 51 small vessels engaged in commercial activity that were involved in shipping accidents (excluding fishing). This accounted for 13.2 per cent of the national total for Canadian vessels. Of these, 23 were engaged in passenger/charter activities. For more details, see Addendum Table A4-14. Over the years, Canadian small vessels engaged in commercial fishing activities have consistently accounted for the highest proportion of the total Canadian vessels involved in shipping accidents. In 2006, they accounted for 48 per cent of the total. As Addendum Table A4-15 shows, however, accidents involving these vessels have declined considerably in the last decade. The Small Passenger Vessel Decal Program that was previously introduced to graphically indicate the vessels participating in the Small Vessel Monitoring and Inspection Program has continued to grow, receiving great acceptance from industry and the travelling public. In addition, the Canadian Marine Advisory Council (CMAC) Standing Committee on Fishing Vessel Safety, with government and industry representation, continued to address regulatory issues and operator certification and training.

International — As a member of the International Maritime Organization (IMO), Canada is required to report casualties for large commercial vessels. In 2006, there were no serious casualties involving a Canadian vessel that were identified at the time of report. There were, however, 61 shipping accidents and 10 accidents aboard ship involving foreign-flag vessels in Canadian waters. There were two fatalities and 16 injuries resulting from

these accidents. Canada is a signatory to two Memoranda of Understanding (MOU) on Port State Control. In 2006, Canada continued to meet its obligations under the MOUs, inspecting 1,243 foreign-flag vessels. Improved targeting and special inspection programs for bulk carriers and tankers have helped improve the safety of foreign ships entering Canadian ports. This was evident once again in 2006, when the established trend in decreased detentions was sustained. Marine Safety publishes an annual report on the Port State Control Program that provides comprehensive data on inspections. Further details on the annual reports can be found at <http://www.tc.gc.ca/MarineSafety/oep/inspection/psc/reports.htm>. In addition, to ensure that established safety practices and Canadian and international requirements are met, certain cargoes for export undergo mandatory inspections under provisions of the *Canada Shipping Act*. In 2006, 1,078 vessels were inspected for export of grain, timber on deck or concentrates, and 447 containers loaded with dangerous goods underwent inspection. Reports are available at <http://www.tc.gc.ca/MarineSafety/oep/inspection/cargoes/menu.htm>.

Marine Transportation Safety Management Systems — These systems were implemented in 1998 on a worldwide basis for tankers, bulk carriers and passenger ships in international trade and were extended in 2002 to almost all vessels trading internationally. They are implemented through the Safety Management Regulations. To date, close to 82 Canadian vessels have obtained the required statutory certification issued by classification societies on behalf of Transport Canada. Through a well established monitoring program, Transport Canada directly monitored eight of the audits carried out by these authorized organizations and also reviewed 12 related audit reports in 2006. Transport Canada continues to support the voluntary adoption of Safety Management Systems by vessels operating in Canadian waters and is reviewing the feasibility of implementing a Safety Management System for operators of Canadian domestic vessels (including small passenger vessels).

Recreational boating safety — There were 97 recreational boating drowning fatalities in 2003, a number 11.8 per cent below the previous five-year average of 110.4. In addition, between 1996 and 2000, the most recent years available, there was an average of 16.2, non-drowning recreational boating fatalities. In 2006, over 100,000 (preliminary figure) recreational vessel licences were issued from over 300 Service Canada centres across the country (<http://www.servicecanada.gc.ca/en/sc/boats/pcl.shtml>). These data are recorded in an electronic database that is accessible to rescue organizations. It should be noted that there are approximately eight million recreational boaters in any given year. The Red Cross and the

Coast Guard Search and Rescue Group maintain comprehensive information on accidents and fatalities relating to pleasure craft at www.redcross.ca and www.ccg-gcc.gc.ca/sar/main. In November 2006, Marine Safety, in conjunction with Road Safety, initiated a pilot study with the Canadian Council of Motor Transport Administrators (CCMTA) and the Traffic Injury Research Foundation (TIRF) to identify, collect and assess available 2005 data on commercial and recreational marine vessel fatalities contained in the files of coroners'/medical examiners' offices across Canada. The information will be used for analysis purposes to help establish baselines and trends on boating-related accidents. This fatality information has the potential to aid in the design of evidence-based boating safety awareness and education programs. Transport Canada is also working with the Maritime Activity Risk Information Network (MARIN) group at Dalhousie University to create a spatial model of recreational boating in Canada (http://www.marin-research.ca/english/research/activity_types). Incident rates based on Search and Rescue incidents and other data sources will then be generated based on location and type of activity. This information will provide valuable input on targeting Transport Canada / Marine Safety outreach efforts.

In 2006, Transport Canada continued to enhance marine public safety through regulatory development, inspection and enforcement, and improved training as a result of the Marine Simulator Contribution Program.

LEGISLATIVE AND REGULATORY ENHANCEMENTS

The *Canada Shipping Act, 2001* (CSA 2001) is expected to enter into force on July 1, 2007. Phase I of the Regulatory Review involved the reform of more than 50 existing regulations into an estimated 24 regulations, and included those regulations that were inconsistent with the provisions of the CSA 2001, as well as those that were deemed to have a substantial impact on safety and the environment. Phase 2 will begin once the CSA 2001 enters into force, and will involve modernizing the remaining regulations so as to ensure they are consistent with the requirements of the new Act.

By December 31, 2006 the following regulations were published in *Canada Gazette* Part I: Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals; Regulations Amending the Safety Management Regulations; Vessel Certificates Regulations; Marine Personnel Regulations; Load Line Regulations; and the Cargo, Fumigation and Tackle Regulations.

By December 31, 2006, the following regulations were published in *Canada Gazette* Part II: Regulations Repealing the Aids to Navigation Protection Regulations; Rule

Repealing the Shipping Inquiries and Investigations Rules; Regulations Repealing the Publication of Standards Regulations; Ballast Water Control and Management Regulations; Regulations Amending the Pleasure Craft Sewage Pollution Prevention Regulations; Regulations Amending the Safety Management Regulations; Regulations Amending the Life Saving Equipment Regulations; and the Regulations Amending the Ship Station (Radio) Technical Regulations.

Transport Canada conducted extensive public consultations on Regulatory Review at the spring and fall 2006 regional and national meetings of the Canadian Marine Advisory Council (CMAC). In addition, several of the individual projects conducted outreach sessions with stakeholders at strategic locations across Canada in 2006.

Other activities in 2006 included the development and delivery of cross-Canada orientation sessions for Marine Safety Inspectors on the new CSA 2001 Regime.

INSPECTION AND ENFORCEMENT

Transport Canada has been busy developing a new compliance and enforcement regime for marine safety as a result of changes to the CSA 2001. Activities have included the development of a comprehensive enforcement policy and a detailed enforcement manual aimed at Marine Safety Inspectors.

A key component of the new CSA 2001 regime is the establishment of a new enforcement mechanism and new tools that will be supported by the new Administrative Monetary Penalties Regulations (AMPs). These Regulations represent a completely new set of regulations for the marine sector. AMPs Regulations involve an administrative process of enforcement, and therefore, marine violators who would be charged with an offence will no longer be required to attend criminal court proceedings under the administrative monetary penalties system. Violators who receive a penalty under the AMPs Regulations will have the right to appeal the TCMS decision to the Transportation Appeal Tribunal of Canada.

During 2006, Marine Safety Inspectors carried out vessel inspections to ensure that regulatory requirements are respected and, consequently, public safety is protected. This inspection program is driven by legislative and regulatory requirements under the Canada Shipping Act. The CSA 2001 allows for greater flexibility in the program and inspections will be based on risk analysis and attention to particular problems identified as affecting public safety. The particulars of the reform of the inspection program will be detailed after the CSA 2001 comes into force.

MARINE SIMULATORS CONTRIBUTION PROGRAM

Training of marine personnel will be enhanced thanks to the approval of a \$7.2 million Marine Simulators Contribution Program, approved by Order-in-Council on December 18, 2006. This program will provide financial assistance to five provinces that have Marine Training Institutes over a four-year transition period, from April 1, 2007 to March 31, 2011. As a result of the gratuitous transfer of the ten marine training simulators, previously owned by the federal government, Transport Canada will be able to ensure consistent standards of training and performance without being prescriptive as to their use.

For further details on the above initiatives and other safety regimes under the Marine Safety Program, visit <http://www.tc.gc.ca/marinesafety/menu.htm>.

AVIATION SAFETY

Canadian-registered aircraft were involved in 238 accidents in 2006 (preliminary figure), down from 244 accidents in 2005 and well below the previous five-year average of 263. The decline is largely attributable to a reduction in recreational aeroplane accidents. Preliminary information shows the 2006 accident rate as 5.7 per 100,000 flying hours compared with 6.0 in 2005 and the five-year average of 6.8.

In 2006, there were 131 commercially operating aircraft involved in accidents, accounting for 55 per cent of the total Canadian-registered aircraft accidents. There were 109 private/recreational aircraft involved in accidents. Historically, airlines and commuter aircraft account for a small portion of these accidents. In 2006, four Canadian-registered airliners were involved in accidents but none resulted in fatalities. There was one commuter operations accident, well below the 2001 – 2005 five-year average of seven, and no fatalities. As in the previous five years, approximately half (45 per cent) the commercial aviation operations accidents in 2006 involved air taxis: there were 59 accidents, compared with 56 in 2005 and the five-year average of 53. Of these 59 accidents, eight (13.6 per cent) were fatal accidents, causing 20 fatalities. There were 33 aerial work accidents in 2006, the same as in 2005, on par with both the previous year of 31, and the previous five-year average of 33.2. This figure accounted for 25.2 per cent of all 2006 commercial aviation operations accidents. Five of the aerial work accidents were fatal accidents and caused five fatalities.

Recreational aviation is a large contributor to the number of Canadian-registered aircraft accidents, accounting for 45.8 per cent of the 2006 total and 51.3 per cent for the 2001 – 2005 five-year average. In 2006, however, there were 19 per cent fewer recreational aircraft involved in

accidents (excluding 29 basic and advanced ultra-lights) than in 2005, at 109 compared with 135. Of the 2006 total, 104 (95.4 per cent) involved aeroplanes, and 11 of these (10.6 per cent) were fatal. This is slightly below the 2001 – 2005 five-year average of 126.4 aeroplane accidents, of which 12.6 were fatal.

The number of reportable incidents reported to the Transportation Safety Board involving either a Canadian- or foreign-registered aircraft remained relatively unchanged in 2006 at 825, compared with 822 in 2005, but below the 2001 – 2005 average of 856.8. Declared Emergencies, at 31.5 per cent, accounted for the highest percentage among the categories of incidents. The 260 Declared Emergencies in 2006 was higher than in 2005 (224) but on par with the previous five-year average (266.0). For more details on aviation incidents, see Addendum Table A4-17.

The source of the data is Transport Canada's database, which contains data that are extracted from the Transportation Safety Board database and then aligned with the Canadian Aviation Regulations (CARs). Addendum Table A4-16 provides more details on these occurrences, and Addendum Table A4-17 further summarizes occurrences as they were reported to the Transportation Safety Board. Addendum Table A4-18 provides more detail on accident rates, and Addendum Table A4-19 provides a breakdown by province of aviation accidents, fatal accidents and fatalities.

Canada already has one of the safest aviation systems in the world, and accident statistics continue their downward trend. Transport Canada is committed to improving that record by building upon existing regulatory frameworks and focussing on risk management practices.

Flight 2010 — A Strategic Plan for Civil Aviation was released in May 2006. It charts the flight plan for Canada's aviation safety program in the years ahead. The two key results in the plan are continued improvement on the high level of aviation safety in Canada and a high level of public confidence in our Civil Aviation program.

Amendments to the Canadian Aviation Regulations requiring aviation organizations to implement Safety Management Systems (SMS) became law in June 2005, and Transport Canada is taking a phased approach to implementation. Larger organizations must put the regulatory changes in place within three years and meet process milestones along the way. The first major milestone was October 1, 2006, when operators in the airline category and aircraft maintenance organizations were required to demonstrate to Transport Canada that their SMS includes a safety management plan, a risk analysis process, a root cause analysis process, a process for reporting risk, and the ability to formulate and

implement appropriate corrective actions. Other parts of the industry will be required to implement an SMS appropriate for their size and complexity over the coming years. The goal is to have an SMS in all regulated aviation organizations by 2010.

Within Transport Canada's Civil Aviation organization, a management improvement approach to increase efficiency, effectiveness and accountability through an Integrated Management System (IMS) is being implemented. The IMS is an evolution of current management processes into a systematic, risk-based management process identical in concept to the SMS but more far-reaching. Once fully operational, an independent evaluation will be conducted along the lines of an SMS assessment.

In 2005, the Civil Aviation organization began a review exercise. Consultations are continuing and a dedicated team, the National Organization Transition Implementation Project team, will manage the transition issues over the coming years. There will continue to be interim changes as progress is made toward the 2010 end-state models envisioned for headquarters and regions. Some have been precipitated earlier than originally planned because of the October 1, 2006, SMS implementation milestone to effectively deliver the national oversight program.

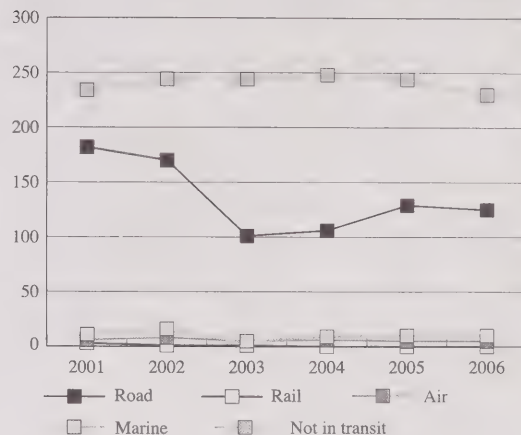
Legislation to amend the *Aeronautics Act*, Bill C-6, was introduced in the House of Commons on April 27, 2006. Second reading concluded on November 7, 2006, and the Bill was sent to the Standing Committee on Transport, Infrastructure and Communities for review. The proposed amendments to the Act will help modernize the legislation and give Transport Canada the required tools to maintain and enhance safety.

TRANSPORTATION OF DANGEROUS GOODS

There were 370 accidents involving the transportation of dangerous goods in 2006, down from 386 in 2005. However, few accidents involving dangerous goods are actually caused by the goods themselves. As Figure 4-4 shows, most accidents involving dangerous goods in recent years occurred during the loading or unloading phase at transportation facilities, not during transport. The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2006, six fatalities and 40 injuries resulted from accidents involving dangerous goods. Of these, one fatality and 17 injuries resulted from the dangerous goods themselves.

Each year in Canada, there are approximately 30 million shipments of dangerous goods that are subject to the TDG Regulations. Almost all (99.99 per cent) arrive safely

FIGURE 4-4: TDG ACCIDENTS BY MODE AND AT TRANSPORTATION FACILITIES, 2001 – 2006



Source: Transport Canada, Dangerous Goods Accident Information System

at their destinations. As Figure 4-4 shows, among the four modes of transport, most reportable accidents (91 per cent) occur on the road. It is important to note, however, that 93 per cent of dangerous goods are shipped using road transportation. By tonnage, more than 46 per cent of the volume of dangerous goods transported in Canada is transported by road and 39 per cent is transported by rail. The TDG program does not cover dangerous goods transported in bulk on ships or by pipeline. For more information on TDG exposure data, contact provencherm@tc.gc.ca. For details on the number of accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-20A to A4-20C.

Tank car thermal protection integrity — Transport Canada, along with the U.S. Department of Transportation (Federal Railroad Administration) and railway and tank car industries, agreed to undertake full-size tank car fire tests. The performance of rail tank cars filled with propane in a fully engulfing fire will give Transport Canada inspectors a realistic set of defect assessment criteria.

Highway tank trailer vent and burn — Transport Canada continued the vent and burn procedure on three propane tanks. Transport Canada is using the data to develop awareness material for emergency responders. For further information on the vent and burn project, refer to the article in the Transport Dangerous Goods Newsletter, Fall edition, at www.tc.gc.ca/tgd/newsletter/menu.htm.

The National TDG Program — This program includes the development of standards and regulations, inspection and enforcement policies, tools for emergency response support, and the manufacture, use and testing of standardized means of containment to promote public safety in the transportation of dangerous goods in

Canada. In 2006, Transport Canada offered training sessions on the TDG Regulations to federal, provincial and territorial inspectors throughout the country. Transport Canada also approved facilities that manufacture or maintain means of containment as required in the standards.

When compliance with the *Transportation of Dangerous Goods Act* may be difficult (e.g. the introduction of new technologies), the Act provides the option to apply for a "Permit for Equivalent Level of Safety." Applicants must demonstrate when their proposed activity is not in compliance with the prescribed requirements, that it will be conducted at a level of safety at least equivalent to these requirements. In 2006, Transport Canada received 886 applications and issued 776 decisions.

International harmonization — Transport Canada's goal to harmonize the regulatory requirements across jurisdictions remains an important objective. In 2006, TDG led the United Nations Sub-committee of Experts on the Transportation of Dangerous Goods (UNSCETDG) in reviewing testing requirements for intermediate bulk containers (IBCs). The U.N. adopted additional testing and other revisions to the Model Regulations for IBCs that will enhance safety. These revisions will be adopted by the IMO and possibly by the ICAO, other international regulatory bodies and national authorities, thus enhancing international and domestic harmonization of requirements. Transport Canada continued discussions with the U.S. DOT to further harmonize regulatory requirements for means of containment. This includes the Manufactured Goods and Sectoral and Regional Competitiveness Working Group under the prosperity side of the Security and Prosperity Partnership of North America (SPP), which identified an initiative to develop the recognition of Canadian tanks by the U.S. DOT. This initiative is also a Smart Regulations initiative. In 2006, Transport Canada initiated standards development work to adopt the U.N. Recommendations on portable tanks for domestic use. Amendment 6, which proposes to further harmonize the TDG Regulations, was pre-published in the *Canada Gazette*, Part I, for comment.

Emergency Response Guidebook — The Canadian Transport Emergency Centre (CANUTEC) provides technical assistance to persons involved in dangerous goods emergencies in order to promote public safety 24 hours a day, seven days a week. CANUTEC handles over 30,000 calls a year. The review of the Emergency Response Guidebook 2004 has been under way for future publication and distribution to fire and police departments as well as ambulance services. The ERG2008 will also be made available as a free downloadable database in three languages. For more information, visit www.CANUTEC.gc.ca.

TRANSPORTATION SECURITY

In 2006, Transport Canada continued to strengthen Canada's transportation security regime through various enhancements and government-wide initiatives, in collaboration with other federal government departments, other countries and international organizations, labour organizations, industry and other stakeholders.

Transport Canada continued to play an important role in the Security and Prosperity Partnership (SPP). In 2005, the leaders of Canada, the United States and Mexico, agreed to pursue discussions on ways to enhance the security of North America and promote the quality of life of its citizens. Transportation security is a key component of the SPP, and Transport Canada continued to collaborate effectively with Canadian stakeholders, the United States and Mexico to develop and implement North American transportation security strategies on, among other issues, aviation security, marine security, emergency preparedness and critical infrastructure protection.

AVIATION SECURITY

PERCEPTIONS OF AIR TRAVEL SECURITY

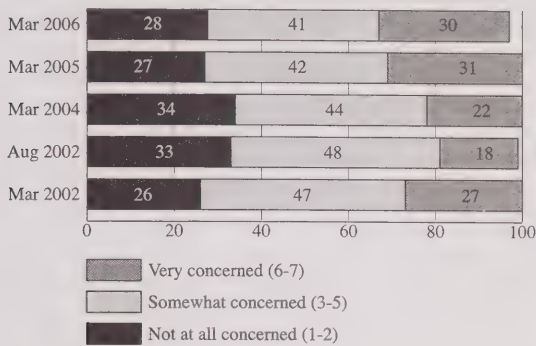
In 2006, Transport Canada continued to implement a number of aviation security initiatives in collaboration with other federal government departments, other countries and international organizations, industry stakeholders and labour organizations. Public confidence in aviation security has gained stability over the past year and has remained relatively unchanged since 2005 (see Table 4-2 and Figure 4-5).

TABLE 4-2: PUBLIC PERCEPTIONS OF AVIATION SECURITY

- Concern about and confidence in the security aspect of air travel is stable. Currently, 30 per cent of Canadians are very concerned and 41 per cent are somewhat concerned. Paradoxically, confidence in security remains high (96 per cent express at least a moderate level of confidence).
- Thinking of the last time they had travelled by air, a plurality of flyers (48 per cent) feels that passenger screening is very thorough, and slightly fewer (42 per cent) feel it is somewhat thorough.
- Nine in 10 Canadians believe that luggage and passenger screening procedures are at least moderately effective. However, 45 per cent also believe that passenger screening measures are not uniformly applied across the country.
- Seventy-three per cent of Canadians now believe there are sufficient security procedures in place to protect air travellers. This represents an increase of seven percentage points since 2002.
- In contrast to self-reported wait times falling well within reasonable limits, flyers are least satisfied with the time it took them to go through security.
- Overall, nearly all flyers express moderate to high levels of satisfaction with their most recent air travel experience. With respect to specific aspects of this experience, flyers are most satisfied with the overall sense of security at the airport (64 per cent express high levels of satisfaction).

Source: *Perceptions of Air Travel Safety and Security in Canada: Wave IV*, EKOS Research Associates (March 31, 2006)

FIGURE 4-5: CONCERN WITH SECURITY OF AIR TRAVEL



Source: *Perceptions of Air Travel Safety and Security in Canada: Wave V, EKOS Research Associates (March 31, 2006)*

AVIATION SECURITY INITIATIVES

Key aviation security initiatives in 2006 include:

- legislative and regulatory enhancements;
- programs such as the Aviation Transportation Security Clearance Program; and
- international initiatives.

In addition to these activities, the advisory panel appointed by the Minister of Transport Canada continued to review the *Canadian Air Transport Security Authority (CATSA) Act*. The Act came into force on April 1, 2002. It required the Minister of Transport to complete a review of the provisions and operation of the legislation during its sixth year and report on the results to Parliament. This expert panel consulted with stakeholders across the country to identify possible enhancements to the *Canadian Air Transport Security Authority Act*. The panel's report was tabled on December 12, 2006.

LEGISLATIVE AND REGULATORY ENHANCEMENTS

To augment the rigorous security standards already in place, Transport Canada developed security regulations in 2006 to:

- facilitate the movement of passengers and goods through Canadian airports without compromising aviation security;
- create an enhanced security regime for specific air carriers or all carriers travelling between Canada and specific countries by tailoring customized requirements to effectively mitigate security risks associated with flights;
- enhance pre-board security screening through its new security measures, including prohibiting certain liquids and gels on board aircraft; and

- enhance access to restricted areas of airports through the use of Restricted Area Identity Cards (RAIC), a biometric-enabled technology used to verify accurately the individuals accessing restricted areas in and around Canada's 29 major airports.

AVIATION TRANSPORTATION SECURITY CLEARANCE PROGRAM

In 2006, Transport Canada continued to manage the Aviation Transportation Security Clearance Program to reduce the risk of unauthorized persons entering restricted areas of an airport. This program uses the Transport Canada Automated Fingerprint Identification System (TCAFIS) to modernize and speed up processing times for aviation transportation security clearances, thus making airport security more effective and efficient.

In 2006, Transport Canada processed about 40,000 applications for security clearances from air industry stakeholders and persons requiring access to secure areas of airports.

INTERNATIONAL INITIATIVES

Transport Canada continued to work with key international allies and international organizations.

Transport Canada continued to co-chair the Canada–U.S. Transportation Security Cooperation Group (TSCG). Bringing the two countries together to discuss issues of common interest related to transportation security, the TSCG played an important role in working toward achieving bilateral SPP aviation and transportation security goals. Similarly, Transport Canada continued to work with the United States and Mexico in the North American Aviation Trilateral (NAAT), a forum enabling the three countries to discuss aviation security concerns and work toward achieving trilateral SPP aviation security goals. Both the TSCG and NAAT enabled Transport Canada to make progress on harmonizing security policies and regulations across the three countries.

Transport Canada coordinated Canada's involvement in the international transportation security initiatives and programs. Transport Canada works with international partners to build a common approach to security and facilitate joint activity and the leveraging of resources. Examples included the coordination of several transportation security initiatives within the context of the Department of Foreign Affairs' Counter-Terrorism Capacity Building (CTCB) Program and the Western Hemisphere Transportation Initiative's Group of Experts on Aviation Safety, Security and Assistance (GEASSA), among others.

Transport Canada continued to enhance Canada's influence and reputation on the international stage by working with organizations such as the International Civil Aviation Organization, the European Civil Aviation Conference, the International Maritime Organization, the North Atlantic Treaty Organization (NATO) and other governments (e.g. the U.S. Department of Homeland Security).

MARINE SECURITY

Marine Security is an important component of overall transportation security that strives to improve security at Canadian ports, on inland waterways and in territorial waters. Since September 11, 2001, the Government of Canada has dedicated \$930 million for projects to improve marine security in Canada, including measures to protect marine infrastructure, increase the surveillance of maritime traffic and improve Canada's capability to respond to emergency situations.

One of the most significant efforts to enhance Canada's marine security followed the International Maritime Organization's (IMO) development of the International Ship and Port Facility Security (ISPS) Code, which came into force July 1, 2004. The ISPS Code is a comprehensive security regime that establishes an international framework of cooperation between governments, government agencies and the shipping and port industries in order to detect and take preventative measures against security incidents affecting ships or port facilities used in international trade. This Code applies to ships engaged on international voyages. In Canada, the ISPS Code was implemented and is currently enforced through the Marine Transportation Security Regulations (MTSRs). It is important to note that Canada's marine security program meets or exceeds international standards and ranks among the best in the world.

In 2006, Transport Canada continued to develop the national marine security regime through regulatory enhancements, inspection and enforcement, the Marine Security Contribution Program, and the work of the Interdepartmental Marine Security Working Group.

LEGISLATIVE AND REGULATORY ENHANCEMENTS

- Amendments to the Marine Transportation Security Regulations were published in the *Canada Gazette*, Part II, on November 15, 2006. These amendments add substantive new Parts (5, 6 and 7) to the Regulations and correct certain minor errors and inconsistencies. Part 5 implements a marine workers' security clearance program, referred to as the Marine Transportation

Security Clearance Program (MTSCP). Part 6 implements an administrative monetary penalty (AMP) enforcement scheme, and Part 7 implements the notice and service requirements applicable to that enforcement scheme. The purpose of the MTSCP is to enhance the security of the marine transportation system. The MTSCP is not a new program but an expansion of the existing Security Clearance Program, which has been in place in Canada's airports since the 1980s.

- A working group established at the November 2005 meeting of the Canadian Marine Advisory Council continues to examine the possibility of introducing new security requirements for domestic ferries.
- Work continued on the development of a Domestic Vessel and Facility Security Strategy that will provide a comprehensive framework for addressing domestic vessel and facility security.
- Transport Canada continues its work on an information guide for industry that will address security requirements for tall ships and all other special events.
- Other activities in 2006 included the administrative set-up in support of IMO regulatory requirements and the training and provision of regulatory guidance/interpretation of the MTSRs for both internal and external stakeholders.

INSPECTION AND ENFORCEMENT

Transport Canada has been active across the country carrying out various activities, including standard-setting, inspection and compliance, and completed awareness, education and support activities. During fiscal year 2005/06, Transport Canada made significant progress by:

- continuing assessments of ports, facilities and vessels against regulatory requirements;
- continuing work with the Department of National Defence and key federal marine security partners in moving the coastal Marine Security Operations Centres (MSOC) in Halifax and Victoria to operational capability to detect, assess, prevent and respond to a direct or indirect marine security threat;
- continuing the development of training programs and tools to ensure that inspection/enforcement programs are consistent across Canada;
- maintaining liaison with the U.S. Coast Guard, including the implementation of joint vessel inspections for foreign-flagged ships and reciprocal port visits to build on best practices;
- maintaining liaison with Canadian and international stakeholders and industry; and

- conducting and developing various industry awareness presentations and publications to ensure constant flow of information and awareness activities to keep target audiences regularly informed of marine security developments and accomplishments.

MARINE SECURITY CONTRIBUTION PROGRAM

Enhancements to Canada's ports and marine facilities will continue under the \$115 million Marine Security Contribution Program, which began in 2004 as a three-year commitment to assist ports and other marine facilities with security enhancements. In June 2006, the Government announced that the program would be expanded to include domestic ferry operators and would also be extended by two years for all facilities other than Canada Port Authorities.

In 2006, more than \$40 million in funding was approved for over 380 security enhancement projects. This brings the total approved funding to date to more than \$85 million for more than 990 security enhancement projects. Over the next three years, the program will continue to fund such projects as the purchase of surveillance equipment (including cameras and closed-circuit TV systems); improvements to dockside and perimeter security and access control, such as fencing, gate signage and lighting; and other port security enhancements.

Interdepartmental Marine Security Working Group (IMSWG)

Transport Canada leads the Interdepartmental Marine Security Working Group (IMSWG), which coordinates marine security efforts on behalf of the Government of Canada. The working group includes other government departments and agencies participating in marine security enhancements. In 2006, the working group:

- ensured effective delivery of marine security initiatives;
- provided strategic advice on marine security gaps;
- facilitated cooperation and coordination among member departments and agencies;
- developed national marine security policy recommendations; and
- facilitated communication with federal departments and agencies and other key stakeholders.

Transport Canada also administers the Marine Security Coordination Fund, on behalf of the IMSWG. This is a funding program that supports one-time or limited-period projects by departments or agencies that will help improve the coordination of marine security efforts across

the federal government and with other jurisdictions involved in marine security. During 2006, the IMSWG approved funding for interdepartmental projects proposed by Health Canada, Canada Border Services Agency, Transport Canada, the Royal Canadian Mounted Police and the Canadian Space Agency.

Transport Canada has the national lead to progress maritime security objectives within the Security and Prosperity Partnership with Mexico and the United States. The trilateral North American Maritime Security Working Group and bilateral Canada–United States Maritime Security Working Group were created as the principal forums for bilateral and trilateral inter-agency discussion and coordination to enhance Canada–Mexico–United States maritime transportation security.

Canada is represented by Transport Canada at many major international organizations, such as the IMO, the Group of Eight (G8), the Asia–Pacific Economic Cooperation (APEC) and the Organization of American States (OAS). All have identified the security of the global marine transportation system as a high priority. Transport Canada participated with partner nations in numerous conferences and meetings on a range of global marine security initiatives and issues and contributed to international marine security capacity building by delivering workshops in other countries.

SURFACE SECURITY

RAIL AND URBAN TRANSIT SECURITY

As the events of Madrid, London and Mumbai have shown, rail and urban transit systems remain vulnerable to terrorist attacks, as they are large, open systems and carry high volumes of passengers. In recognizing this vulnerability, the federal government in 2006 committed \$115 million over five years to enhance the security of Canada's passenger rail and urban transit operators.

Included in this funding is Transit-Secure, a two-year, \$80 million contribution funding program designed to provide an incentive for operators of passenger rail and urban transit services to implement new and enhanced security initiatives. Based on current risk assessments, funding will be concentrated on the six urban centres with major urban transit systems: Vancouver, Edmonton, Calgary, Toronto, the National Capital Region and Montreal. However, smaller operators will also be eligible to receive funds for risk assessments and security plans.

The first round of funding was aimed at major operators in the six urban centres and approved up to \$37 million for risk assessments, security plans, employee training programs, public awareness, and the upgrade of security equipment such as access control technology and lighting. Smaller operators will be eligible for up to \$3.9 million. The remaining funding rounds will be announced in 2007.

As well, drawing on international best practices, Transport Canada is working with federal partners, other levels of government, transportation experts and the transportation community to develop a comprehensive long-term policy. The policy will look at a range of approaches to achieving a sustainable and comprehensive security regime for rail and urban transit in Canada.

INTERMODAL CARGO SECURITY

Budget 2006 allocated \$26 million over two years to enhance air cargo security in Canada. Implementation of initiatives to improve cargo screening and security of the air cargo supply chain will commence early in 2007. Consultations to ensure harmonization with international standards and the utilization of best industry practices will continue to be held with national and international partners, including the Canada Border Services Agency, CATSA, Canadian industry, the United States and the United Kingdom throughout the development process.

In summer 2006, the National Air Cargo Security Training and Awareness Committee launched a security awareness campaign to emphasize the importance for employees of air cargo-handling facilities to monitor control of access to restricted area.

CRITICAL INFRASTRUCTURE PROTECTION AND EMERGENCY PREPAREDNESS

NATIONAL CRITICAL INFRASTRUCTURE ASSURANCE PROGRAM (NCIAP)

Transport Canada continued to work with a number of federal government departments, the provinces, territories and stakeholders to develop a National Critical Infrastructure Protection (CIP) Strategy. Transport Canada also continued to work cooperatively with the United States on critical infrastructure protection, including co-chairing the Canada-U.S. CIP Steering Committee.

EMERGENCY PREPAREDNESS ACTIVITIES

In 2006, the main focus was to train and exercise staff in the Transport Canada Situation Centre to ensure effective response to all incidents, emergencies and crisis affecting the transportation system.

Transport Canada participated in eight meetings of NATO's transportation plenary boards, committees and their working groups in accordance with its responsibilities under Canada's International NATO Policy. In addition, the Insurance Study Group made some progress on the NATO War Risk Insurance Indemnity Agreement for both the marine and aviation schemes. These agreements will ensure NATO's ability to acquire quality civilian airlift and sealift capacity in times of crisis.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) RESPONSE PROJECT

Transport Canada continued to implement the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project for the transportation of dangerous goods. The goal of this project is to secure access to trained industrial emergency response teams that, when requested by authorities, are capable of helping first responders handle dangerous goods used as CBRN agents in terrorism situations in Canada.

The project is based on the network of existing responders that has been developed over the years under the *Transportation of Dangerous Goods Act's* Emergency Response Assistance Plan requirements. These responders routinely provide assistance to first responders in handling dangerous goods involved in transportation accidents and are therefore appropriately trained and equipped.

In 2006, Transport Canada continued to work with other federal government departments and the provinces to share information and best practices and increase capabilities to respond in the event of an incident. Potential industrial responders have been provided with additional awareness training, and many have expressed interest in the project. There are approximately 30 organizations participating on the CBRN Response Project on a voluntary basis.

TRANSPORTATION AND THE ENVIRONMENT

5

The government announced a tax credit for transit users in relation to monthly (or longer duration) passes and its intent to regulate the fuel consumption of road motor vehicles.

OVERVIEW

Transportation and the environment have a complex relationship. Transportation activity, the actual movement of goods and people, has both direct and indirect impacts on the environment. These include emissions to air, water and land. Reducing those impacts is an enormous challenge in a country such as Canada, where transportation is fundamental to Canada's economic prosperity and Canadians' quality of life.

In 2006, the Commissioner of the Environment and Sustainable Development (CESD) reported that the federal government should do more to reduce emissions within key sectors, such as transportation. However, reducing air, water and land pollution needs to be balanced with the economic imperatives and social needs of our geography.

To maintain and improve our competitiveness, we need to ensure that our transportation system is efficient and responsive to new challenges. We must also ensure that it addresses key environmental priorities such as clean air, greenhouse gas (GHG) emissions reduction, clean land and clean water.

In Canada, transportation is a shared jurisdiction, with the federal, provincial and municipal governments all having important roles to play. Within the federal government, Transport Canada has the lead responsibility for many issues involving both transportation and the environment, but there are also important roles for Natural Resources Canada, Environment Canada and Industry Canada.

FEDERAL GOVERNMENT'S ENVIRONMENTAL AGENDA

Addressing the health and environmental consequences of air emissions is a priority of the new government. In 2006, a commitment was made to develop a comprehensive Environmental Agenda that would encompass a new approach to addressing climate change and clean air. A budget of \$2 billion over four years has been allocated to implement this agenda.

The federal government's new approach integrates climate change and clean air while taking concrete actions in the near term to promote the achievement of long-term results. The approach emphasizes legislative and regulatory action to limit air pollutants and GHG emissions starting in 2010, complemented with a streamlined package of initiatives for early action and investment.

AIR POLLUTION EMISSIONS

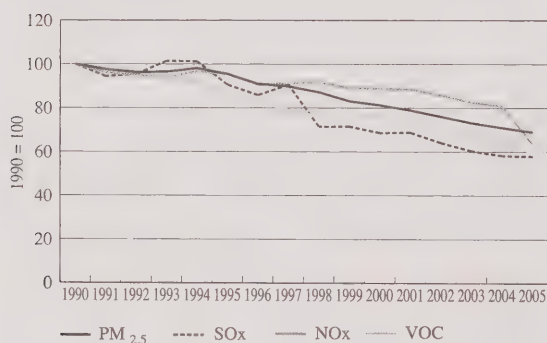
Air pollution emissions represent a significant environmental and health issue for Canadians, particularly for the roughly 80 per cent of people who live and/or work in urban areas. These emissions include pollutants such as nitrogen oxides (NO_x) and sulphur oxides (SO_x), volatile organic compounds (VOC) and particulate matter (PM₁₀ or PM_{2.5}). Collectively, these emissions are known as criteria air contaminants, and they come from a wide range of sources, including the transportation system. Urban smog is perhaps the most visible impact of these emissions. Urban smog has been linked to several thousand premature deaths in Canada each year, as well as to numerous health-related problems. Smog is composed of two main ingredients: ground-level ozone and particulate matter. Ground-level ozone is created when NO_x and VOC react together under specific conditions, such as calm, sunny days.

Burning fossil fuels produces the majority of NO_x emissions. NO_x, along with sulphur dioxide (SO₂), also contribute to acid rain. VOC are found in gasoline fumes and solvents. Fine particulate matter (PM) is produced during fossil fuel combustion in motor vehicles, power plants and large industries. It also comes from dust from paved and unpaved roads and road construction as well as forest fires.

TRENDS IN AIR EMISSIONS FROM THE TRANSPORTATION SECTOR

It should be noted that fuels vary considerably in terms of their emissions. For example, in 2005, on-road and off-road diesel engines accounted for roughly 70 per cent of transportation-related PM_{2.5} emissions (off-road diesel use alone accounts for 56 per cent) and 52 per cent of transportation-related NO_x emissions. Gasoline engines, on the other hand, account for 88 per cent of transportation-related VOC emissions. Marine transportation, which uses a mix of diesel and heavy fuel oil, is responsible for 49 per cent of transportation-related SO_x emissions. Figure 5-1 illustrates the trends in transportation-related PM_{2.5}, SO_x, NO_x and VOC emissions (1990 trends indexed to 100). Since 1990, the trend in all these emissions has been downward, largely due to regulatory changes introduced by the federal government aimed at reducing the health impacts of smog and the impacts of acid rain.

FIGURE 5-1: AIR POLLUTION EMISSION FROM THE TRANSPORTATION SECTOR, 1990 – 2005



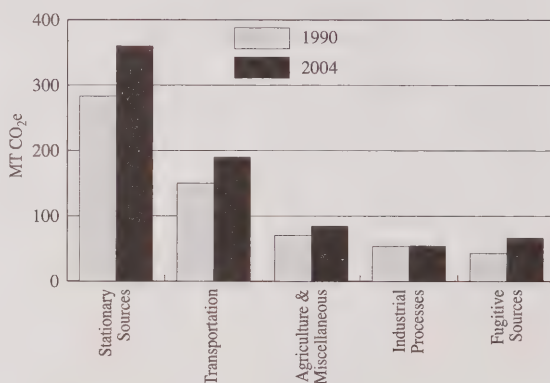
Source: Environment Canada: 2006 Criteria Air Contaminant Inventory, Preliminary Estimates

GREENHOUSE GAS

In 2004, Canadians contributed about 758 megatonnes (Mt) of carbon dioxide equivalent (Mt CO₂ eq) of GHGs to the atmosphere. This was an increase of 0.6 per cent over the 754 Mt recorded in 2003, considerably less than the 3.9 per cent increase the previous year. Canada's economic GHG intensity — the amount of GHGs emitted per unit of economic activity — was 2.6 per cent lower in 2004 than in 2003. Since 1990, emissions have increased by about 27 per cent. Figure 5-2 shows that the transportation component of total emissions was 190 Mt in 2004, or 25 per cent of the total. However, since 1990, transportation's share of total emissions has remained fairly stable at around 24 to 26 per cent.

On-road emissions accounted for 76 per cent of total transportation emissions in 2004, while domestic air-related emissions accounted for four per cent, and rail and domestic marine each accounted for three per cent. Off-road and pipelines combined accounted for the remaining 15 per cent of total GHG emissions from transportation. (Note: Totals in this paragraph do not add up to 100 due to rounding.)

FIGURE 5-2: TOTAL GHG EMISSION BY SECTOR, 1990 AND 2004

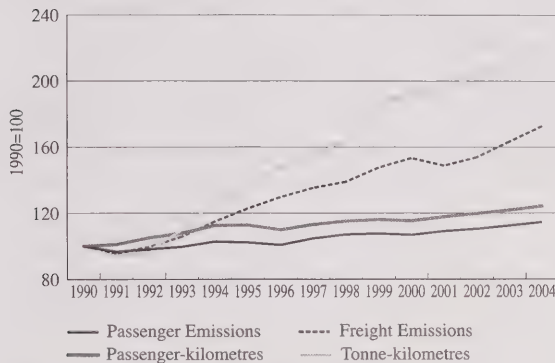


Source: Canada's Greenhouse Gas Inventory, 1990–2004, Environment Canada

Figure 5-3 shows the trends from 1990 to 2004 in on-road GHG emissions and activity levels from the passenger and freight sectors (1990 levels indexed to 100). During this period, emissions from on-road passenger travel increased by roughly 16 per cent, while passenger-kilometres increased by 30 per cent. This indicated a small improvement in the GHG intensity of on-road passenger vehicles transportation.

Figure 5-3 also shows that GHG emission levels of on-road freight increased by 73 per cent over the same period, more than five times the increase in passenger GHG emissions. Considered in the context of a 125 per cent increase in freight activity levels measured in tonne-kilometres, however, this indicates that while freight is accounting for increasing levels of GHGs compared with passenger travel, it is also becoming more efficient by decoupling GHG emissions from activity. Freight accounted for 23 per cent less GHGs emitted per tonne-kilometres in 2004 than in 1990. This has been achieved in a number of ways, including the adoption of better operating practices and the use of more efficient equipment.

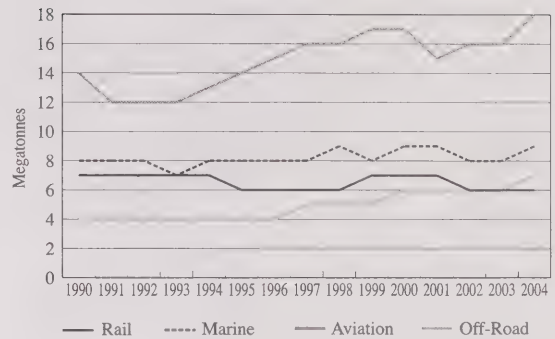
FIGURE 5-3: TRENDS IN ROAD TRANSPORTATION GHG EMISSIONS AND ACTIVITY, 1990 – 2004



Source: Energy Use Handbook: August 2006; Natural Resources Canada, Office of Energy Efficiency

Figure 5-4 shows the trends in GHG emissions from the rail, aviation, marine and off-road sectors from 1990 to 2004. At 17 Mt, aviation was the largest non-road contributor to the transportation GHG emissions sector. The marine sector, at 9 Mt, was the next largest contributor; however, marine emissions overall have been relatively constant over this period, with a six per cent increase. The rail sector was responsible for 6 Mt in 2004, a 15 per cent reduction from 1990, even though rail freight activity levels have increased by 30 per cent since 1990.

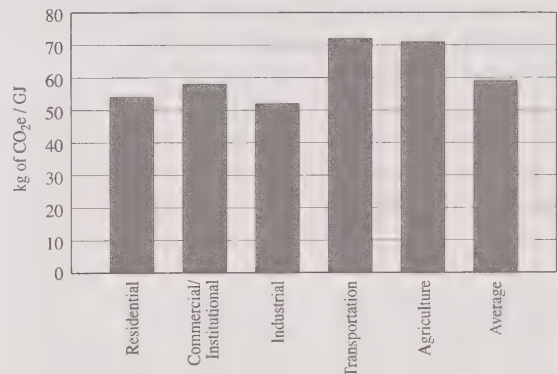
FIGURE 5-4: NON-ROAD TRANSPORTATION GHG EMISSIONS, 1990 – 2004



Source: Energy Use Handbook: August 2006; Natural Resources Canada, Office of Energy Efficiency

Transportation GHG emissions are increasing at a slower rate than activity because of the more efficient travel of people and goods. However, when looking at energy end use, the sources of energy used in the transportation sector make it the most GHG-intensive sector per unit of energy consumed in the Canadian economy, as is shown in Figure 5-5.

FIGURE 5-5: GHG INTENSITY OF ENERGY END USE SECTORS, 2004



Source: Energy Use Handbook: August 2006; Natural Resources Canada, Office of Energy Efficiency

FEDERAL INITIATIVES

CLEAN AIR REGULATORY AGENDA

The Clean Air Regulatory Agenda sets out the Government of Canada's comprehensive plan for regulating emissions from various sources. This includes new provisions for regulating automobiles, railways and commercial and consumer products.

The Notice of Intent (NOI) to develop and implement regulations and other measures to reduce air emissions was published in the *Canada Gazette* on October 21, 2006. The NOI sets out the federal government's intention to address all major sources of air emissions. As specified in the NOI, the Government intends to continue developing and implementing regulations to reduce smog- and acid rain-forming emissions from on-road and off-road vehicles and engines.

The Government intends to regulate the fuel consumption of road motor vehicles. The Minister of Transport, with the Minister of Natural Resources, will develop regulations that will build on the 2005 voluntary commitment the auto industry collectively made to reduce 5.3 Mt of GHGs by 2010 through ongoing improvements in fuel consumption performance. These new regulations will be developed and implemented under the *Motor Vehicle Fuel Consumption Standards Act*, as amended by the proposed *Canada's Clean Air Act*. Regulations will take effect for the 2011 model year, following the expiry of the Memorandum of Understanding between the auto industry and the Government of Canada.

Under the 2006 NOI, a number of new regulations were introduced for on-road and off-road vehicles and engines that were not previously regulated. For example, heavy-duty diesel engines used in off-road applications such as construction, mining and agricultural applications will be subject to stringent emission standards for the first time in Canada.

New regulations were finalized in 2006 to strengthen Canada's regulations for on-road motorcycles, including extending the scope of regulations to cover small scooters and mopeds for the first time. Proposed regulations were also published to establish stringent standards to reduce smog-forming emissions from outboard engines, personal watercraft, snowmobiles, off-road motorcycles and all-terrain vehicles.

The Government's comprehensive approach, as described in the NOI, will reduce emissions of air pollutants and GHGs and will include all major sources of air emissions, including all transportation sectors (road, rail, aviation and marine), industrial sectors, consumer and commercial products, and indoor air quality.

SUSTAINABLE DEVELOPMENT STRATEGY

On December 13, 2006, Transport Canada tabled its fourth Sustainable Development Strategy in Parliament. *Sustainable Development Strategy 2007–2009* outlines Transport Canada's vision of sustainable development and its action plan for promoting a more sustainable transportation system in Canada. The strategy defines seven strategic challenges and 21 specific commitments for action over the next three years (2007 – 2009). For this strategy, Transport Canada chose to focus on three themes at the heart of sustainable transportation: urban transportation, commercial freight transportation and marine transportation. These themes allowed the department to focus its efforts and make a smaller number of results-oriented commitments.

Transport Canada reports on its progress annually within the *Departmental Performance Report* and in the *Sustainable Development Progress Report*. Both are available on-line at www.tc.gc.ca/publications/en/menu.htm and www.tc.gc.ca/SDS, respectively.

SURFACE TRANSPORTATION

Intelligent Speed Adaptation

As excessive speed impacts not only safety but also GHG emissions, Transport Canada is conducting a research program on the effectiveness of Intelligent Speed Adaptation (ISA) in maintaining vehicle speeds in traffic. ISA refers to a system that can help drivers comply with the posted speed limit. Feedback is provided to the driver if the speed limit is exceeded. The work is investigating the technical feasibility, efficiency and emission benefits, potential safety, driver attitudes and behaviours, and acceptability. Work is also being undertaken to evaluate the effectiveness of real-time fuel cost/consumption display in influencing speed choice and behaviours and, consequently, fuel use.

Transport Canada is also working with the provincial and territorial governments to review the issues concerning mandating speed limiters for trucks set at 105 km/h and mandating electronic on-board recorders.

Transport Canada Urban Programs

Transport Canada administers two programs that encourage the implementation of sustainable transportation options in Canadian cities and communities: The Urban Transportation Showcase Program (UTSP) and the Moving On Sustainable Transportation (MOST) program. These programs help municipal and non-profit partners test and implement cost-effective transportation strategies. The benefits of these programs support important policy objectives for the transportation system in Canada, such as air emission and smog reduction, congestion relief and improved health.

The UTSP funds, in partnership with provinces and municipalities, integrated urban transportation "showcase" projects that demonstrate, evaluate and promote cost-effective strategies for reducing GHG emissions. In 2006, five municipalities continued to implement their UTSP demonstration projects: Halifax, Region of Waterloo, Toronto-Hamilton, Whitehorse and Greater Vancouver. In November, the UTSP project in the City of Winnipeg was launched. Showcase projects in Gatineau and Quebec City were announced in February 2007, and are expected to begin in 2007. For more information on all the UTSP showcases, visit www.tc.gc.ca/utsp/.

The MOST program funds innovative, community-based sustainable transportation projects. Five new MOST projects totalling \$110,000 were approved for funding in 2006, for a total of 34 ongoing projects during the course of the year. These projects represent a wide variety of initiatives, ranging from supporting non-motorized delivery services to studying the effects of infrastructure on cyclists. An annual review provided results and information on the 13 completed projects. For more information on MOST projects, visit www.tc.gc.ca/most.

Transit tax credit

In Budget 2006, the Government of Canada announced that, beginning on July 1, 2006, individuals would be able to take advantage of a non-refundable tax credit to cover the cost of purchasing a monthly (or longer duration) pass for commuting on buses, streetcars, subways, commuter trains and local ferries. This new initiative will have a positive impact on managing transportation demand as well as saving transit users about \$150 per year.

Urban Transportation Emissions Calculator

Transport Canada has developed an Internet-based tool (Urban Transportation Emissions Calculator) for urban transportation professionals to calculate direct (e.g. tailpipe) and indirect (e.g. emissions from the

production of electricity) transportation-related emissions, including GHGs and criteria air contaminants. This tool allows municipalities to plan and report transport-related emissions in a more standardized manner.

Transport Canada Freight Programs

The Freight Efficiency and Technology Initiative (FETI) is a five-year program that aims to reduce the growth of GHG emissions from freight transportation. This initiative is administered by Transport Canada with support from Natural Resources Canada. Under this initiative, in 2006, the Freight Sustainability Demonstration Program allocated approximately \$2.5 million for 12 new demonstration projects that demonstrate and encourage the use of innovative technologies and efficient best practices within the freight transportation sector. This brings the total to \$4.1 million for 30 projects. Eight projects have been completed to date, with the remaining 22 wrapping up by 2007.

In addition, Transport Canada, Environment Canada and the Railway Association of Canada have negotiated a Memorandum of Understanding to voluntarily reduce rail GHG and criteria contaminant emissions. This agreement is expected to help align Canadian locomotive emissions for Class 1 freight railroads with the United States' *Environmental Protection Act* standards by encouraging the purchase of cleaner locomotives and the endorsement of best practices. The MOU will also ensure that railways continue to improve their GHG emissions performance between now and 2010.

Furthermore, in 2006, Transport Canada and the International Civil Aviation Organization jointly sponsored a workshop on Aviation Operational Measures for Fuel and Emissions Reductions.

The Freight Efficiency Program is a four-year effort, administered by Transport Canada, to reduce GHG emissions from the transportation sector. This program is complementary to FETI and has two components: the Freight Incentives Program and the Shipper Awareness Program. The Freight Incentives Program funds cost-shared projects to purchase and install new, proven technologies that increase energy efficiency and reduce emissions in the rail, marine and air freight industries. Transport Canada did not select new projects for funding in 2006, in recognition of the fact that it would have been difficult for funding recipients to successfully complete their projects by the end of the program in March 2007. One project has been completed to date, with the remaining eight to wrap up by 2007. The Shipper Awareness Program enhances the understanding of

shippers, freight forwarders, transportation brokers and logistics service providers of the environmental impacts of their transportation decisions, as well as improves their uptake of transportation alternatives available to them to reduce GHG emissions. In 2006, Transport Canada and Supply Chain and Logistics Canada (SCL) sponsored a fall symposia across Canada and commissioned a study entitled "Literature Review of Emission Reducing Technologies and Best Practices for Shippers," which was presented at the symposia.

MARINE TRANSPORTATION

Water Quality

The proposed regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals were published in the *Canada Gazette Part I* in June 2006. The proposed regulations would amalgamate current requirements and introduce a number of new provisions, in particular ones that would implement Annex IV (sewage), Annex V (garbage) and Annex VI (air emissions) of the International Convention for the Prevention of Pollution from Ships (MARPOL) and the International Convention on the Control of Harmful Anti-fouling Systems on Ships. Adoption of these provisions would then put Canada in a position to sign on to these important international conventions.

Transport Canada's Ballast Water Control and Management Regulations were proclaimed on June 28, 2006. All vessels subject to the regulations are required to carry onboard ballast water management plans as of December 8, 2006. These regulations require ships coming to Canada that discharge ballast in our waters to properly manage their ballast water, including residual ballast water, in order to reduce the risk of ships unintentionally introducing harmful aquatic organisms or pathogens.

National Aerial Surveillance Program

Transport Canada keeps a watchful eye over ships transiting Canadian waters through its National Aerial Surveillance Program (NASP). The NASP is the primary tool for detecting ship-source pollution in waters under Canadian jurisdiction. During 2005/06, Transport Canada acquired a second maritime surveillance system that will enable surveillance aircraft to cover a much broader area than before, day or night, and in more challenging weather conditions on Canada's west coast. The acquisition and installation of the Maritime Surveillance System 6000 (MSS 6000) represents an investment of \$4.6 million. This system coupled with the existing RADARSAT satellite system will act as a great deterrent

to polluters. Currently, through a partnership with Environment Canada's Integrated Satellite Tracking of Polluter's (I-STOP) program, Transport Canada uses RADARSAT images to look for oil spills on the ocean's surface. In 2005/06, Transport Canada spent \$300,000 on RADARSAT imagery as part of the I-STOP project and acquired 971 images, 25 per cent more than the previous year. Also in 2005/06, Transport Canada conducted over 1,548 dedicated pollution patrol hours (a new record for the NASP), detected 78 pollution incidents and flew over 9,724 vessels during dedicated pollution surveillance patrols.

ENVIRONMENTAL MANAGEMENT

Various initiatives around Canada are involved in managing our interaction with our environment. These range from Environmental Management Systems, environmental assessments, and integrating environmental and community knowledge into accurate and responsible decision making.

Environmental Management Systems

Transport Canada is responsible for managing its lands and facilities in an environmentally responsible manner. Transport Canada has adopted an Environmental Management System (EMS), an approach that has been used by governments and private companies around the world to ensure environmentally sound practices and minimize liability. Transport Canada promotes compliance with environmental laws and federal government policies in its day-to-day operations, with a strong focus on bringing and maintaining its activities in line with federal policies and best practices. Transport Canada is responsible for a wide range of operations and approximately 847 properties, including fleets of aircraft and vehicles, as well as stores, warehouses and offices in central and remote sites across the country. Although Transport Canada no longer directly operates many components of the transportation system, it retains the role of landlord and manager for major components of the system, including the National Airports System. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its lands and facilities.

Environmental Evaluation and Mitigation

The federal government's 2004 Budget committed \$3.5 billion over 10 years to accelerate the clean up of contaminated sites for which the Government of Canada is responsible. The Federal Contaminated Sites Accelerated Action Plan (FCSAAP) was established to accelerate action and reduce federal financial liabilities related to high-risk sites. Key elements include a

completed inventory and ranking of sites, along with accelerated action on those sites posing the greatest risks to human health and the environment. In 2005/06, Transport Canada spent \$30.7 million on the assessment and remediation / risk management of contaminated sites, including \$13.9 million in funding from the FCSAAP.

Transport Canada's regional offices have important responsibilities with respect to contaminated sites and environmental monitoring. For example, in 2005/06, Quebec Region handled 12 contaminated site rehabilitation projects worth \$4.39 million and invested almost \$83,000 in environmental monitoring at seven airport and port sites. The Atlantic Region has undertaken significant remediation work in St. Alban's, Newfoundland and Labrador, at a Former Helicopter Base following the findings of a 1997/98 Environmental Baseline Study. The remediation project was completed in the fall of 2006. The environmental benefits included reduction of GHGs and site remediation; the economic benefits were the cost savings to Transport Canada; and the social benefits were the provision of much needed employment to the community.

SUPREME COURT DECISIONS ON THE FEDERAL GOVERNMENT'S OBLIGATIONS TO CONDUCT ABORIGINAL CONSULTATIONS

For Transport Canada infrastructure projects, the majority of consultations with Aboriginal groups in recent years were conducted as part of environmental assessments. However, the latest Supreme Court decisions describe the federal government's duty to consult and go beyond the *Canadian Environmental Assessment Act's* existing provisions for consultation. For example, the Taku River, Haïda Nation and, most recently, the Mikisew Cree decisions require that the federal government undertake a more extensive analysis that deals with a wider range of Aboriginal rights. These decisions specify that the federal government's duty to consult arises when "the Crown has knowledge, real or constructive, of the potential existence of the Aboriginal right or title and contemplates conduct that might adversely affect it."¹ As a result, Transport Canada has created a centre of expertise on Aboriginal consultations to provide support, guidelines and information to Transport Canada officials working on projects related to transportation infrastructure. This will ensure that Transport Canada coherently and appropriately fulfills the Crown's duty to consult Aboriginals.

Great Lakes–St. Lawrence Seaway Emissions Study

The Great Lakes–St. Lawrence Seaway (GLSLS) Emissions Study is a joint Canada–U.S. effort to evaluate the future infrastructure needs of the GLSLS. The GLSLS is aging, and its maintenance and rehabilitation costs are projected to rise at an ever-increasing pace. In order for governments to effectively develop policies affecting the future of this transportation system, it is necessary to complete an assessment of the current state of the GLSLS economic, engineering and environmental factors and conditions as they pertain to commercial marine navigation and the transportation infrastructure on which it depends.

The following agencies are involved with this initiative: Transport Canada, U.S. Army Corps of Engineers, U.S. Department of Transportation, Environment Canada, U.S. Fish and Wildlife Service, the St. Lawrence Seaway Management Corporation (Canada) and the Saint Lawrence Seaway Development Corporation (United States). The primary purpose of the GLSLS is to give decision makers information regarding the expected environmental effects of the maintenance alternatives being considered to keep the GLSLS system operational through to 2060. The study is viewed as preliminary since this work does not represent an environmental assessment as required by the *Canadian Environmental Assessment Act* or the *US National Environmental Policy Act*.

PROVINCIAL INITIATIVES

New Brunswick

In 2006, the province of New Brunswick made significant strides in improving the fuel efficiency of its transportation system. Key highlights include:

- The federal investment of \$1.9 million under the Canada–New Brunswick Agreement on Public Transit to improve Fredericton's public transit system. The agreement includes a five-year capital investment plan in which the City of Fredericton will purchase 14 new buses and one Paratransit bus. These new buses will all be low-emission and wheelchair accessible, which will reduce the average age of the city's bus fleet from nearly 16 years to 10 years. Through this project, ridership is projected to increase by 50,000 and GHGs will be reduced by 250 Mt by 2010. The city also plans to expand its maintenance facility to accommodate the larger fleet.

1 Haida Nation v. British Columbia (Minister of Forests), 2004 SCC 73, [2004] 3 S.C.R. 511

- The implementation of a new green vehicle policy by the New Brunswick government. The policy is expected to make the government fleet more fuel-efficient and reduce GHGs. The green vehicle policy is part of the government's commitment to environmental sustainability outlined in the *Charter for Change* and impacts all new vehicles purchased through and maintained by the Department of Transportation's Vehicle Management Agency, including vehicles driven by ministers and deputy ministers.

Nova Scotia

In 2006, the province of Nova Scotia has also made significant progress in updating its public transit system and assessing the sustainability of the transportation system. Key highlights include:

- A Government of Canada investment of \$37.5 million will allow improvements in 11 public transit systems to be made in Nova Scotia. Eligible capital investments may include the purchase of buses and accessible transit vehicles, the construction of new terminals and maintenance facilities, and the acquisition of improved computerized systems for transit services. The funds include over \$11.7 million from the Canada–Nova Scotia Agreement on the Transfer of Federal Public Transit Funds and \$25.8 million to Nova Scotia through the federal Public Transit Capital Trust. These investments will help reduce traffic congestion and improve air quality, as well as help to reduce CO₂ and other GHG emissions. Transit services that will benefit from this funding include the Metro Transit in the Halifax Regional Municipality, Cape Breton Transit, Kings Transit (including Kings County and surrounding area) and eight other community transit organizations.
- The completion of a comprehensive (560-page) report to assess the sustainability of the transportation system using 20 key indicators and numerous sub-indicators. The study completed by GPI Atlantic examined 15 different cost categories to assess the true cost of passenger road transportation in Nova Scotia. The study provides recommendations for making transportation more efficient, affordable and sustainable. For more information on the report, *GPI Transportation Accounts: Sustainable Transportation for Nova Scotia – Measuring Sustainable Development, Application of the Genuine Progress Index to Nova Scotia*, see <http://www.gpiatlantic.org>.

Ontario

In 2006, the Ontario Ministry of Transportation made important progress toward easing congestion, reducing emissions and expanding mobility options to benefit all Ontarians. Key highlights include:

- Launching the third year of Ontario's investment of two cents per litre of the existing provincial gas tax to provide \$313 million in 2006/07 for 86 public transit systems in 104 communities across Ontario. Public transit ridership was up by 23 million passenger trips across the province from 2004 to 2005, the equivalent of removing 19 million car trips from our roads.
- Passing legislation to create the Greater Toronto Transportation Authority, which will develop an integrated transportation plan for transit and major roads in the Greater Toronto Area and Hamilton, one of the fastest growing regions in North America.
- Awarding the contract to build and operate the Greater Toronto Area Fare Card System, a seamless, secure and cost-effective transit fare collection system that will help riders travel across nine different transit systems from Hamilton to Oshawa.
- Celebrating the one-year anniversary of the first provincial High Occupancy Vehicle (HOV) lanes on highways 403 and 404. Results show that nearly 40 per cent of commuters are now carpooling on these highways in morning peak hours, compared with less than 20 per cent before HOV lanes opening.
- Initiating three pilot projects for alternative vehicles — electric bicycles, low-speed electric vehicles and Segway® Personal Transporters — that reduce pollution and energy use and can encourage people to leave their cars at home.

Manitoba

In 2006, the province of Manitoba and its partners initiated several projects that assisted their efforts to improve the safety, efficiency and environmental sustainability of the transportation system. Key highlights include:

- Manitoba Infrastructure and Transportation (MIT) work in bringing its road salt management activities into full compliance with Environment Canada's voluntary guidelines by completing the construction of impermeable salt storage sheds.
- The development of a partnership between MIT and the Prairie Adaptation Research Collaborative to analyze temperature trends affecting the provincial winter road network. The provincial winter road system serves approximately 38,000 Manitobans in 28 communities

not served by permanent roads. The work also included the development of a climate change impact adaptation strategy to relocate winter roads away from lakes and rivers to the extent that over 90 per cent of Manitoba's 2,300-kilometre winter road system is now on land-based alignments.

- In 2005 – 2006, MIT in partnership with Natural Resources Canada and the Fleet Vehicles Agency (FVA) initiated the construction of an E85 refueling station and a fuel procurement and rebate program for provincial fleet vehicles. This project included a commitment to maintain ethanol (E10) purchases at 20 per cent of the total fuel consumed by the department's vehicles.
- Two Special Operating Agencies (FVA and Materials Distribution Agency (MDA)) reporting to the provincial Minister of Infrastructure and Transportation have played a prominent leadership role in influencing sustainable principles in the areas of vehicle, fuel and commodity purchases. The MDA offers its clients "Green Choice" products made with environmentally friendly materials and/or processes. At the time of this report, MDA was offering 206 Green Choice products. The FVA works with government departments to ensure that the impact on the environment is considered when choosing fleet vehicles. The FVA promotes Fit for Purposes or Right Vehicle for the Job when departments are replacing vehicles. The provincial fleet now includes 203 alternative and flexible fuel vehicles.

Alberta

In 2006, a number of transportation-related initiatives established by the province of Alberta are worth noting. Key highlights include:

- The Automated Vehicle Identification (AVI) initiative was introduced to continue the Intelligent Transportation System (ITS) objective of reducing environmental impacts while meeting the service needs of commercial carriers. The AVI allows commercial vehicles with a preclearance status to bypass inspection stations and reap the benefits of electronic technologies through savings in travel time, fuel and emissions. Alberta Infrastructure and Transportation has installed AVI technologies at 12 vehicle inspection stations on major highways across the province. This project is being cost-shared with Transport Canada under the ITS component of Transport Canada's Strategic Highway Infrastructure Program.
- A \$239 million investment in Alberta's bio-energy sector. This initiative will make the province a leader in producing renewable energy from organic materials. This investment will be provided over the next five years

and will fund a Renewable Energy Producer Credit program and a program to support technology investment in the province. For more information, visit <http://www.gov.ab.ca/home/index.cfm?page=1508>.

- The initiation of a Roadside Optical Vehicle Emission Reporting (ROVER II) project by the Clean Air Strategic Alliance – Vehicle Emission Team (CASA VET), co-funded by the Alberta Government and other CASA partners in 2006. The first ROVER project conducted in 1998 found that about 10 per cent of vehicles (typically the oldest) accounted for over half of emissions and led to the initiation of the Breathe Easy vehicle scrappage program pilot, which pointed to the viability of ongoing scrappage programs in Alberta. The ROVER II project used the latest in remote sensing technology to test over 50,000 vehicles in Edmonton, Calgary, Red Deer and Canmore in September and October, 2006. The project report and recommendations are expected in mid-2007. Detailed project information is available at http://www.casahome.org/?page_id=116.
- The initiation of a Hybrid Taxi Pilot project led by Climate Change Central and co-funded by the Alberta Government from December 2005 to March 2006, which provides incentives to participating taxi owners to purchase hybrid vehicles. This project aims to reduce GHG emissions and smog from Alberta's heavily travelled taxis. The impact of advancing to hybrid technology is found to be significant, with reductions of up to 21 tonnes of GHG emissions in certain hybrid models per annum. Details can be found at <http://www.hailahybrid.ca/>.

MUNICIPAL/OTHER INITIATIVES

Sustainable Transportation Planning

In 2006, the Transportation Association of Canada (TAC) Sustainable Transportation Standing Committee completed a project on Strategies for Sustainable Transportation Planning. This project was funded by Transport Canada and involved research into the state of practice and future directions for sustainable transportation planning in Canadian urban areas, as well as six workshops held across Canada to gather insights from a range of practitioners. Twelve principles and 49 suggested strategies were identified and described to help promote more sustainable transportation planning. The results of this work are summarized in a TAC briefing to be distributed to practitioners across Canada. A background research report is also available on Transport Canada's Urban Transportation Showcase Web site at www.tc.gc.ca/utsp/.

Rail freight traffic between Canada and the United States increased in 2006, by 2.7 per cent for exports and five per cent for imports.

MAJOR EVENTS IN 2006

Canadian National Railway (CN) continued to acquire more railways in 2006, including Rail America's Lakeland & Waterways, MacKenzie Northern and Central Western railways. In doing so, CN increased its operations by approximately 1,200 kilometres of track.

In the summer of 2006, Rail America's Esquimalt & Nanaimo Railway (E&N) operations on Vancouver Island were transferred to Southern Railway of BC (SRY). This left the Island Corridor Foundation (ICF) the majority owner of the track on the Vancouver Island, after Canadian Pacific Railway (CPR) had donated its portion of the former E&N line to the ICF just a few months earlier.

In 2006, overall employment in the railway industry continued to decline, though by much less than it had over the previous 15 years, while rail output continued to increase.

INFRASTRUCTURE

The structure of Canada's rail system remained relatively stable in 2006. In British Columbia and Ontario, however, CPR and CN discontinued 108 route-kilometres of track. CPR transferred 209 route-kilometres of its Willingdon subdivision to the Province of Alberta.

Operations of OmniTRAX (Carlton Trail Railway in Arborfield, Saskatchewan, and Hudson Bay Railway in Sheridan, Manitoba) were transferred to the newly formed railways Thunder Rail and Keewatin Railway, respectively.

Other rationalization activity included 1,131 route-kilometres of Rail America operations in Alberta transferred to CN; a portion of CSX Transportation's Sarnia subdivision transferred to CN as the Sarnia Spur; and SRY taking over operations of the E&N line as the Southern Railway Vancouver Island Limited.

Table 6-1 shows the distribution of trackage by key carriers and carrier groups in 2006.

TABLE 6-1: RAILWAYS IN CANADA, 2006

	2006 Owned / Leased Route- kilometres	2005 Owned / Leased Route- kilometres	Per cent of total (2006)	Percentage change over previous year
CN Rail [CN]	22,686	21,631	47.2	4.9
CP Rail [CPR]	12,812	13,129	26.7	(2.4)
Regional and Shortline Railways	11,734	12,871	24.4	(8.8)
All Others ¹	835	835	1.7	0.0
Total	48,068	48,467		(0.8)

Notes: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.

Totals may not add up due to rounding.

1 Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Source: Transport Canada

The formation of shortline railways exploded after the *Canada Transportation Act 1996* came into force, with 37 new shortlines forming between 1996 and 2000. Only a few new shortlines have been created since then, however, and several have been transferred back to Class I railways. This has resulted in a slight reduction in the total number of railways in recent years. It is probable that more transfers will occur in coming years, but it is unlikely they will do so at the same rate as in the 1990s.

Most of the approximately 10,000 kilometres of rail line discontinued between 1990 and 2006 were divided fairly equally between CN and CPR. Ontario has experienced the most discontinuance of rail track, followed by Saskatchewan, Alberta and Quebec. While transfers in the past typically occurred from CN or CPR to shortlines, in recent years track has been transferred among shortlines, as well as from regional carriers and shortlines to CN.

Table 6-2 shows rationalization activity in the rail sector in 2006 and from 1990 to 2006.

TABLE 6-2: RAILWAY RATIONALIZATION IN CANADA

		2006 Rationalization	1990 – 2006 Rationalization
Discontinuances	CPR	26	4,688
	CN	82	4,313
	Other		1,065
	Total	108	10,066
Transfers	CPR	209	4,191
	CN		7,983
	Other	1,765	7,064
	Total	1,974	19,238
Total	CPR	235	8,879
	CN	82	12,296
	Other	1,765	8,128
	Total	2,082	29,304

Note: Totals may not add up due to rounding.

Source: Transport Canada

Since 1990, 29,304 kilometres of line have been rationalized, significantly changing the structure of Canada's rail industry. While CN and CPR remain the dominant carriers, accounting for about 93 per cent of industry activity and revenues, they operate about 74 per cent of the total domestic rail network instead of the 90 per cent they operated a decade ago.

Addendum tables A6-1 and A6-2 provide further details of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

In the 1990s, the number of rail carriers more than doubled. This dramatically altered the character of the industry. Nonetheless, CN and CPR continued to account for the bulk of rail industry revenues. The rail industry generated revenues of \$9.8 billion in 2005, a significant increase over 2004. The Class I carriers, namely CN, CPR and VIA Rail, experienced their biggest share of industry revenues over the 16-year period from 1990 to 2005, collectively generating 93 per cent of the industry's total revenues. Their share had hovered just below 90 per cent since 1997. This is partly due to CN's takeover of BC Rail, which has also reduced the regional sector's proportions in 2005, from a 5.3 per cent share to a 2.5 per cent share of industry revenues. Shortline revenues grew significantly over the same period, from \$95 million in 1990 to \$455 million in 2005, and this sector's proportion of rail industry revenues grew from 1.5 to 5.0 per cent.

Table 6-3 compares revenues in the railway sector in 2004 and 2005. Addendum Table A6-3 shows revenues since 1990.

TABLE 6-3: RAILWAY REVENUES, 2004 AND 2005

(Millions of dollars)		
	2004	2005
CN	4,275	4,950
CPR	3,263	3,723
VIA Rail	421	430
Subtotal Class I	7,959	9,103
Regional	451	235
Shortlines ¹	444	455
Total	8,854	9,793

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

VIA Rail remains the dominant choice for intercity passenger rail travel, accounting for almost 94 per cent of total passenger revenues in 2005. The balance of intercity rail passenger services is provided by CN (former Algoma Central Railway services), Ontario Northland and the Quebec North Shore & Labrador. Seasonal and tourist operations in Canada include The Great Canadian Railtour Company, Alberta Prairie Railway Excursion, White Pass & Yukon, the Hull–Chelsea–Wakefield Railway and Prairie Dog Central. Amtrak, an American corporation, offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail).

EMPLOYMENT

Over the past 15 years, employment in the rail sector has declined significantly, from more than 67,000 employees in 1990 to about 35,000 in 2005. This equals an average 4.3 per cent decrease per year. At 1.7 per cent, the decline was not as significant in 2005 as in previous years. Employment for Class I carriers dropped from 61,000 employees to 31,500, or 4.3 per cent per year over the period, but it increased slightly from 2004 to 2005. Employment at regional carriers fell 9.4 per cent per year, from 5,600 employees to just below 1,300 in 2005. This was due in part to CN's takeover of Algoma Central Railway and BC Rail. By contrast, employment at shortline carriers increased 9.3 per cent per year, from 550 employees to just over 2,100. The relative levels of employment in each class of carrier are consistent with these changes. From 1990 to 2001, the Class I carriers dropped from 91 per cent to 86 per cent of total rail industry employment, then increased slightly to almost 91 per cent in 2005. After a healthy and steady share in the late 1990s at nine per cent, the regional carriers dropped to just 3.7 per cent of industry employment in 2005. As would be expected, shortline employment grew from a virtually non-existent proportion to 6.1 per cent of total rail industry employment in 2005, marking the first year that this sector's share exceeded that of the regional sector.

Table 6-4 compares the level of employment in the rail industry in 2004 and 2005. Addendum Table A6-4 shows further details.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2004 AND 2005

	2004	2005
Class I	30,966	31,526
Regional ¹	2,550	1,295
Shortline ¹	2,072	2,136
Total	35,588	34,957

Note: Totals may not add up due to rounding.

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

Class I carriers, including VIA Rail, significantly increased their fuel efficiency from 1990 to 2005. This can be explained by comparing fuel consumption and output. As Addendum Table A6-5 shows, fuel consumption by Class I railways, accounting for 92 per cent of total sector fuel consumption in 2005, has not fluctuated substantially since 1990. As Addendum Table A6-6 shows, however, output in terms of revenue tonne-kilometres increased by 46 per cent over the same period, from about 225 billion to 328 billion tonne-kilometres.

Both CN and CPR increased fuel efficiency through important investments in new locomotive replacement programs in the latter half of the 1990s. They also changed operating practices and reduced operations over low-density lines, which for the most part were transferred to other operators.

Table 6-5 compares output in the railway sector in 2004 and 2005, while Table 6-6 compares fuel consumption for the same years.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2004 AND 2005

	2004	2005
Class I	313,654.4	328,269.5
Regional ¹	16,857.8	15,220.7
Shortline ¹	7,843.5	8,583.5
Total	338,355.8	352,073.7

Note: Totals may not add up due to rounding.

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2004 AND 2005 (Millions of litres)

	2004	2005
Class I	1,895.1	1,964.7
Regional ¹	103.7	67.0
Shortline ¹	100.5	102.9
Total	2,099.3	2,134.7

¹ Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Both fuel consumption and output of regional railways has been relatively stable until recent years. Regional railways have competed well with Class I railways in terms of fuel efficiency, but in 2005 their efficiency exceeded that of the Class I railways. This is attributed to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway (QNS&L), as well as BC Rail's having dropped out of scope as a regional carrier. Due to the nature of its operations, the QNS&L has enjoyed fuel efficiency almost double the industry norm.

FREIGHT TRANSPORTATION

From 1990 to 2001, the output of railways operating in Canada generally increased. In 2002, CPR's revenue tonne-kilometres decreased three per cent in 2002, while CN's revenue tonne-kilometres decreased four per cent in 2003. This resulted in little growth in output from 2001 to 2003; however, both railways experienced a 12 per cent increase over the next two years, with CN reaching 183 billion tonne-kilometres and CPR reaching 145 billion tonne-kilometres in 2005.

After an almost seven per cent increase in output from 2003 to 2004, the shortlines experienced another significant increase in 2005, up 9.4 per cent to 8.6 billion tonne-kilometres. However, following a declining trend since 2000, regional railways dropped almost 9.7 per cent to 15.2 billion tonne-kilometres in 2005. Due to these changes, 2005 marks the first year that the shortline sector output has amounted to more than half that of the regional sector.

From 1999 to 2002, the volume of traffic interchanged between Class I and Canadian Class II carriers peaked, nearing 27 million tonnes. After two years of a slight decline, however, this volume fell to 24 million tonnes in 2004 before increasing slightly to 24.9 million tonnes in 2005. These changes are largely due to traffic that is received by Class I carriers from Class II carriers, as this represents about 65 per cent of total interchanged traffic.

Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1995.

Based on three quarters of data for 2006, CN output is expected to increase to 194 billion tonne-kilometres, while CPR output is expected to decrease to 142 billion tonne-kilometres.

RAIL FREIGHT TRAFFIC — COMMODITIES

Annual rail loadings decreased only slightly to 284 million tonnes in 2006 (not including receipts from U.S. connections). See Addendum Table A6-9 for further details. Volumes in Western Canada remained at 157 million tonnes, while volumes in Eastern Canada decreased 1.4 per cent to 127 million tonnes. The main commodities loaded in Western Canada were grain, coal, forest products and fertilizer materials. Iron ore, other ores and mine products, forest products and intermodal shipments were the main commodities loaded in Eastern Canada.

GRAIN

After a large decline in 2002, grain shipments slowly increased until 2004, then remained steady until an almost 17 per cent increase in 2006 to 31.8 million tonnes. This represents a 19 per cent increase in shipments of wheat and a 14 per cent increase in shipments of other grains.

COAL AND COKE

After a seven-year period of coal and coke shipments steady near 41 million tonnes, they declined in 2002 and again in 2003, to 31.8 million tonnes. Since then, shipments have fluctuated only slightly, up to 35 million tonnes in 2005 but down again to 32.8 million tonnes in 2006.

FOREST PRODUCTS

Shipments of processed forest products have generally been increasing since 1997, when the volume was just over 17 million tonnes. In both 2004 and 2005, significant increases (17 per cent and 12 per cent, respectively) brought the volume loaded to just above 32 million tonnes, where it remained in 2006.

In contrast, shipments of non-processed forest products dropped drastically in 1998, from 24 million tonnes to just below 17 million tonnes. These shipments remained steady until 2002, when they increased slightly to 19 million tonnes. Loadings fluctuated only slightly in the following three years, but another significant decrease (12 per cent) was experienced in 2006, when shipments totalled only 16 million tonnes.

ORES AND MINE PRODUCTS

From 1994 to 1998, shipments of iron ore were steady at an average 37.5 million tonnes. In 2001, they fell to just below 29 million tonnes; they rebounded only slightly in 2002 and 2003 before an iron ore workers strike in 2004 reduced shipments to 28 million tonnes. Iron ore volumes increased by 15 per cent in 2005 and then by five per cent in 2006 to reach 34 million tonnes.

Since 2000, shipments of other ores and mine products have remained steady near 25 million tonnes. In 2006, these shipments decreased only slightly, to 24.9 million tonnes.

FERTILIZER MATERIALS

After two years at 30 million tonnes, shipments of fertilizer materials decreased 11.5 per cent in 2006 to 26.6 million tonnes, comparable with volumes during the late 1990s. This change is due mainly to decreased loadings of potash, whereas loadings of sulphur have remained steady for the past three years.

INDUSTRIAL PRODUCTS

After reaching a 13-year peak in 2004 at 15.9 million tonnes, shipments of chemicals decreased just four per cent in 2005 to 15.3 million tonnes and increased slightly in 2006 to 15.6 million tonnes. Continuing to increase, shipments of metals rose almost six per cent to 13.5 million tonnes in 2006. For the fourth year in a row, shipments of automobiles and parts decreased, down six per cent to 4.6 million tonnes. Shipments of petroleum products increased from 5.2 million tonnes in 1997 to 14.4 million tonnes in 2003 and have remained at this volume for the past four years.

INTERMODAL

From 1996 to 2005, CN and CPR intermodal tonnage grew by 12.7 million tonnes, an average annual growth rate of 6.0 per cent. Domestic North American traffic fell slightly in 2004 and 2005, lowering the average annual nine-year growth rate to 5.7 per cent. Since 2002, rail-marine intermodal traffic has increased, resulting in average annual growth rates of 3.8 per cent for rail-marine exports and 8.9 per cent for rail-marine imports over the same nine-year period. Addendum Figure A6-1 shows these intermodal traffic trends. Growth in total rail intermodal volumes was most significant between 1998 and 1999, at 12.6 per cent. From 2004 to 2005, growth was two per cent, reaching 31.0 million tonnes. Figure A6-2 in the Addendum shows the origin and destination of CN and CPR intermodal traffic. Figure A6-3 shows that the share of domestic North American intermodal traffic dropped for the second year in a row, to just 38 per cent, while the share of both rail-marine exports and imports increased.

Addendum Figure A6-4 shows that the market share of containers on flat cars (COFC) continued to increase in 2005, accounting for more than 95 per cent of total rail intermodal volumes. This is a considerable increase from 77 per cent in 1996. The volume of trailers on flat cars (TOFC) decreased again in 2005.

RAIL FREIGHT TRAFFIC BETWEEN CANADA AND THE UNITED STATES

Addendum Table A6-10 shows volumes of rail exports and imports by commodity since 1997. In 2006, export rail tonnage totalled 78.0 million tonnes, up 2.7 per cent from 2005. Exports of forest products, the largest commodity group, were down almost four per cent to 28.6 million tonnes, halting the steady increase since 1996. After a significant increase in 2004, chemicals exports remained steady in 2006 at 12.7 million tonnes, while exports of fertilizer materials fell 9.5 per cent to 8.6 million tonnes. Exports of grains were up considerably, by 61 per cent to 5.0 million tonnes, while exports of iron ore were negligible in 2006. For the second year in a row, exports metals increased by 15 per cent, reaching a high of 4.8 million tonnes in 2006.

Addendum Table A6-11 shows the values of rail exports and imports by commodity since 1997. Automotive has consistently been the largest contributor to these totals, and accounted for 43 per cent in 2006. Forest products followed at 16 per cent.

Since 2003, automotive exports have been decreasing, down 7.8 per cent in 2006 to \$32.1 billion. The value of forest products exports was up in 2004 and 2005, but fell in 2006 by 12 per cent to \$15.5 billion. Although other valuable export commodities of chemicals and metals increased, overall, export value decreased by 1.5 per cent to \$75.4 billion.

Although its share is decreasing, Ontario remained the largest contributor to rail export volume and value, originating 23 per cent of export volume (17.9 million tonnes) and 55 per cent of export value (\$41.5 billion) in 2006.

Alberta's contribution to rail exports has generally been increasing since 1996. In 2006, it was a very close second in terms of export volume, with a 19.7 per cent share at 15.4 million tonnes. In terms of value, Quebec remains the second largest contributor to rail exports, accounting for 15.9 per cent and originating \$12.0 billion, a 12 per cent increase from 2005.

The volume of import rail tonnage continued to grow, up five per cent in 2006 to total 25.7 million tonnes. Chemicals accounted for almost 24 per cent of rail imports and increased slightly to 6.1 million tonnes, making it the largest contributor. Automotive surpassed metals as the second largest group in 2003, and continued to increase to 2006, reaching 3.7 million tonnes or 14.2 per cent of total import volume. Metals also increased in 2006, up three per cent to three million tonnes.

Automotive remained the top commodity by import value, accounting for 44.5 per cent of total imports in 2006, at \$12.9 billion. Chemicals, the second largest commodity group, has experienced an increase in share since 2003, to 23.5 per cent of total import value in 2006, or \$6.8 billion. Addendum tables A6-12 and A6-13 show the volume and value of rail exports by province of origin since 1997.

As Addendum Table A6-14 shows, Ontario cleared 45.5 per cent of imports in 2006, 11.7 million tonnes in total. Alberta and Quebec followed with 17.4 per cent (4.5 million tonnes) and 9.1 per cent (2.3 million tonnes) shares of import volume, respectively. In terms of value, Ontario was also the dominant province of clearance in 2006, with \$19.7 billion, a four per cent increase from 2005. This is illustrated in Addendum Table A6-15.

Addendum Tables A6-16 to A6-19 give further details on exports and imports, including major commodities originating from, and cleared in, the provinces mentioned above.

BORDER CROSSING POINTS

By volume, the main border crossing points for rail exports in 2006 were Fort Frances and Sarnia, both in Ontario. They accounted for 22.4 per cent (17.4 million tonnes) and 15.6 per cent (12.2 million tonnes) of exports, respectively. While exports through Sarnia decreased slightly, those through Fort Frances increased by two million tonnes, or 13 per cent. Forest products and chemicals accounted for 59 per cent of rail export volumes through these locations. See Addendum Table A6-20 for further details.

By value, the main border crossing points for rail exports in 2006 were Sarnia and Windsor, both in Ontario. They accounted for 30.9 per cent (\$23.3 billion) and 21.0 per cent (\$15.8 billion) of exports, respectively. Automotive products accounted for 66 per cent of rail export value at these locations. See Addendum Table A6-21 for further details.

Sarnia was also the leading port of clearance for import tonnage in 2006, accounting for almost 18 per cent of total rail import volume (4.5 million tonnes). Chemicals accounted for 42 per cent of rail imports cleared there. Other major ports of clearance were Toronto, Edmonton, Montreal and Sault Ste. Marie. See Addendum Table A6-22 for further details.

The value of imports cleared in Sarnia increased 19 per cent in 2006 to \$6.4 billion. This large increase, along with a 15 per cent decrease in the value of imports cleared in Windsor, placed Sarnia as the leading border location for rail traffic in 2006. The value of imports cleared in Toronto increased 22.5 per cent, to \$4.9 billion, placing it as the second largest port of clearance for 2006. Automotive was the most valuable commodity group cleared at these three locations. Addendum Table A6-23 shows rail imports by value and port of clearance.

OVERSEAS TRADE

After a significant jump in 2004, goods carried to and from Canadian ports by Class I railways increased only slightly in 2005, by 3.3 per cent to 101 million tonnes. Traffic in transit between Canada and the United States decreased in 2005; U.S. exports via Canada were down 12 per cent to 2.4 million tonnes and U.S. imports via Canada were down 21 per cent to 2.9 million tonnes. Addendum Table A6-24 shows fluctuations of rail-marine exports and imports since 1996.

Rail-marine exports originating in British Columbia increased by 3.5 per cent in 2005, due mainly to an increase in coal and cereal grains. Exports originating in Saskatchewan and Alberta also increased by 8.5 and 6.0 per cent, respectively. These three provinces accounted for 83 per cent of total rail-marine exports in 2005. Addendum Table A6-25 shows rail-marine exports since 1996 for all provinces of origin and the United States.

Rail-marine exports of coal traffic increased 8.2 per cent in 2005, to 28.9 million tonnes. After a 31 per cent jump in exports of grains in 2004, exports of wheat decreased 6.5 per cent, while exports of other cereal grains increased 20 per cent. This resulted in an overall 2.9 per cent decrease to 17.7 million tonnes in 2005. Fertilizer materials remained steady at 13.4 million tonnes, while other food and agricultural products continued to increase, up 15 per cent to 10.4 million tonnes. Exports of intermodal traffic jumped 27 per cent to 6.3 million tonnes. Addendum Table A6-26 shows rail-marine exports by commodity since 1996.

Rail-marine imports by Class I carriers remained steady near 10.8 million tonnes in 2005. About 91 per cent of these imports, or 9.9 million tonnes, were intermodal.

In 2005, Ontario and Quebec continued as the main provinces of destination of rail–marine imports, at 6.8 million tonnes, or 63 per cent of the total. This represented a nine per cent increase over 2004. After several years of growth, rail–marine imports to the United States decreased by almost 21 per cent, to 2.9 million tonnes, or 26 per cent of the total. Addendum Table A6-27 shows rail–marine imports since 1997 for all provinces of destination and the United States.

Intermodal rail–marine imports continued to grow, up almost ten per cent to 10 million tonnes in 2005. After a substantial jump in 2004, imports of forest products dropped back to typical levels, while chemicals and metals experienced a slight increase. Table A6-28 shows rail–marine imports by commodity since 1997.

PASSENGER TRAFFIC

There were almost 4.3 million intercity rail passengers in 2005, up five per cent from 2004. Total passenger-kilometres increased by about the same proportion, to just below 1.5 billion. VIA Rail carried 4.1 million passengers in 2005 (a 5.4 per cent increase) over a total of 1.4 billion passenger-kilometres (a 4.3 per cent increase). Class II carriers transported 0.17 million passengers (a seven per cent increase) over a total 49 million passenger-kilometres (a 12 per cent increase). Addendum Table A6-29 gives details of intercity rail passenger traffic for Class I and II carriers, including Algoma Central, Ontario Northland and the Quebec North Shore & Labrador Railway.

Since 2002, commuter rail traffic in Toronto, Montreal and Vancouver has been increasing steadily. In 2005, ridership was up 3.2 per cent to 56.3 million passengers. With the exception of Vancouver's West Coast Express in 2003, all three major commuter rail companies (West Coast Express, Toronto's GO Transit and Montreal's Agence Métropolitaine de Montréal) have experienced increases during this period. In 2005, GO Transit carried 70 per cent of commuter rail traffic, comparable with previous years. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

RAIL FREIGHT INDUSTRY

In 2005, the freight revenues of CN and CPR operations in Canada grew by 15.1 per cent, the second year in a row of strong revenue growth after weak growth over the 2000 – 2003 period. Rail freight rates increased by an average of 9.8 per cent in 2005, while price increases averaged 2.4 per cent over the 2000 – 2005 period. The price increases can largely be attributed to the introduction of fuel surcharges. Output increased by 4.8 per cent in 2005, with growth in all traffic sectors. Output growth was particularly strong in intermodal services and agricultural shipments (7.3 per cent and 8.6 per cent, respectively), while revenue growth was highest in intermodal shipments and other bulk shipments (16.1 per cent and 21.4 per cent, respectively). In 2005, productivity increased by 2.6 per cent, the tenth consecutive yearly increase. Gains in productivity in the industry have averaged 1.8 per cent a year since 2000. Unit costs in 2005 increased for the first time in five years, for an overall increase of 6.7 per cent. Fuel costs were a large contributor to this increase. The combined operating profit of \$2.26 billion for CN and CPR in 2005 was a 31.5 per cent increase over 2004, while the operating ratio (operating expenses as a percentage of operating revenues) declined from 77.2 per cent to 74 per cent. The return on assets of the shortline railways increased to 10.2 per cent in 2005, following a decrease in 2004 (see Table 6-7). Addendum tables A2-61 to A2-64 provide more details on the railway industry.

VIA RAIL

In 2005, VIA Rail's revenues increased by 5.9 per cent, the ninth increase over the past ten years. The increase was attributed to an increase in output (4.1 per cent) and, to a lesser extent, an increase in prices (1.7 per cent). VIA Rail's total factor productivity increased by 2.1 per cent during 2005, while unit costs increased by four per cent. Fuel price increases were the major factor in the unit cost increase. The increase in VIA Rail's overall cost recovery ratio dropped from 48.2 per cent to 47.2 per cent in 2005, due in large part to the increase in expenditures on diesel fuel.

In 2005, a 7.3 per cent increase in for-hire trucking revenues was reported, as well as a significant increase in the earnings of urban transit operators.

MAJOR EVENTS IN 2006

LEGISLATIVE AND REGULATORY CHANGES

Motor Vehicle Transport Act (MVTA) — Parliament passed amendments to the Act, creating a consistent national safety regime for extra-provincial truck and bus operators (motor carriers) in 2001. The provinces and territories, which directly enforce the federal regulations, subsequently took the necessary steps to implement the amended regime.

The federal government also established the Motor Carrier Safety Fitness Certificate Regulations. These provide the framework for provinces and territories to implement the safety rating regime for extra-provincial motor carriers envisaged by the MVTA amendments. The regulations are based on several of the motor carrier safety standards that make up the National Safety Code for Motor Carriers.

The amended regime came into force on January 1, 2006.

Hours of Service Regulations — Revisions to the Federal Hours of Service Regulations for commercial drivers employed by extra-provincial truck and bus operators were published in Part II of the *Canada Gazette* on November 16, 2005. The revisions — following lengthy consultations with the industry, provinces, territories and other stakeholders — provide significantly more opportunity for drivers to rest, and will reduce the maximum daily driving hours in a 24-hour period by 19 per cent, from 16 to 13 hours.

Like the Safety Fitness Certificate Regulations, the amended hours of service rules are based on one of the National Safety Code standards, which also serves as the basis for provincial hours of service regulations.

The revised federal regulations came into force on January 1, 2007.

BILL C-3

On April 24, 2006, the Hon. Lawrence Cannon, Minister of Transport, Infrastructure and Communities, introduced Bill C-3, an Act respecting international bridges and tunnels and making a consequential amendment to another Act (short title: the *International Bridges and Tunnels Act*), in the House of Commons. The Bill was passed in the House on June 22, 2006 and received First Reading in the Senate the same day. The Bill received Third Reading in the Senate on December 13, 2006, and Royal Assent on February 1, 2007.

The Act:

- confirms the federal government's exclusive jurisdiction over international bridges and tunnels;
- requires Governor in Council approval for the construction or alteration of an international bridge or tunnel;
- requires Governor in Council approval for purchasing, operating, or acquiring control of an entity that owns or operates an international bridge or tunnel;
- authorizes the Governor in Council to make regulations regarding the maintenance and repair, operation and use, and security and safety of international bridges and tunnels;
- empowers the Minister to order the owner or operator of an international bridge or tunnel to take any action that the Minister considers appropriate to ensure that it is kept in good condition;
- empowers the Minister to make emergency directions in cases of immediate threats to the security or safety of an international bridge or tunnel; and
- establishes a system of administrative monetary penalties for designated infractions of the proposed legislation.

OTHER ISSUES OF SIGNIFICANCE

NEW TAX ON INCOME TRUSTS

Four of the top 10 Canadian for-hire carriers in 2006 were income funds. Consequently, the decision of the federal government to apply a corporate tax to income trusts announced on October 31, 2006 was a matter of considerable interest to the sector. New trusts beginning trading as of November 1, 2006 or later would face the new measures in 2007; existing trusts (case of some Canadian for-hire carriers operating at the time of the announcement) would have a four-year transition period and would not face the new rules until 2011. At the end of 2006, the proposed changes had not yet been enacted.

BUS INDUSTRY AND SAFETY FITNESS REGIME

Extra-provincial bus operators are among those subject to the safety fitness regime created by the amendments to the MVTA that came into force at the beginning of 2006. Bus companies, except for transit operators, will also be subject to the new hours of service regime.

There were few dramatic developments in the regulatory regime for the intercity and charter bus industry in 2006. The one exception was in New Brunswick. In a decision issued March 30, 2006, the Board of Commissioners of Public Utilities of New Brunswick (now NB Energy and Utilities Board) suspended the licence of DRL Coachlines Limited of Newfoundland for a period of six months. (This action followed a similar decision applying to DRL in 2005 issued by the Utility and Review Board of Nova Scotia). DRL was offering chartering services in New Brunswick. The company was found guilty of violating various Acts in transportation.

INFRASTRUCTURE

ROAD NETWORK

Since the 2005 Transport Canada Annual Report, road length estimates have been based on information obtained from the National Road Network (NRN). The NRN is a detailed digital map of the public road network in Canada developed by Natural Resources Canada. The first national coverage was made available in March 2005 and represented the network as it existed in 2003. It can be downloaded for free at: <http://geobase.ca/geobase/en/search.do?produit=nrnc1&language=en>.

The advantages of using the NRN as opposed to the source used in the past are:

- The NRN covers only the public road network in Canada making it more consistent with historical estimates of road length.
- The map is a non-proprietary source making it easier to share, upgrade and enhance.
- It has an estimate of the number of traffic lanes per road segment so that estimates of lane-kilometres and two-lane equivalent kilometres can be constructed.
- It identifies roads under provincial and local jurisdiction separately.
- The map has information on the type of surface (e.g. paved versus unpaved).

NATIONAL HIGHWAY SYSTEM (NHS)

On September 22, 2005, the Council of Ministers Responsible for Transportation and Highway Safety endorsed the recommendations made by the National Highway System Task Force of a criteria-based National Highway System composed of three categories of route type: Core; Feeder; and, Northern and Remote. As a result of this decision, the NHS encompasses 38,021 km of key linkages:

<i>Jurisdiction</i>	<i>Core Routes</i>	<i>Feeder Routes</i>	<i>Northern and Remote Routes</i>	<i>Total</i>
Yukon	1,079 km	-	948 km	2,027 km
Northwest Territories	576 km	-	847 km	1,423 km
Nunavut	-	-	-	-
British Columbia	5,861 km	447 km	724 km	7,032 km
Alberta	3,970 km	217 km	197 km	4,384 km
Saskatchewan	2,450 km	-	238 km	2,688 km
Manitoba	982 km	742 km	370 km	2,093 km
Ontario	6,131 km	706 km	-	6,836 km
Quebec	3,448 km	766 km	1,436 km	5,649 km
New Brunswick	993 km	832 km	-	1,825 km
Prince Edward Island	208 km	188 km	-	396 km
Nova Scotia	903 km	296 km	-	1,199 km
Newfoundland and Labrador	1,008 km	298 km	1,163 km	2,469 km
Total	27,608 km	4,490 km	5,922 km	38,021 km

Table 7-1 shows that there were over one million two-lane equivalent lane-kilometres of public road in Canada (a lane-kilometre measures the number of lanes of traffic on each section of road; for example, if four lanes of traffic exist on a one-kilometre section of road, there are four lane-kilometres (i.e. four lanes x one kilometre). The same section also represents two kilometres of two-lane equivalent highway (i.e. four lane-kilometres divided by two).

Four provinces — Ontario, Quebec, Saskatchewan, Alberta — account for 75 per cent of the total length. Saskatchewan and Alberta account for half of the unpaved network (which represents three fifths of the total network length) while Ontario and Quebec account for nearly half of the paved network.

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

Trucking plays a significant role in Canada's economy. Goods shipped by truck range from raw materials to components to final products. For-hire carriers, private carriers, owner-operators and courier firms make up the industry. As a whole, the industry generated an estimated \$67 billion in revenues in 2005. Trucking firms can be differentiated in a number of ways: the size of their fleet of trucks; the type of equipment they use; the geographic scope of their operations; the type of services they offer; and the type of freight they carry. They can also be differentiated by jurisdiction of operations. Carriers that provide interprovincial or international (extra-provincial) trucking services fall entirely within federal jurisdiction, while carriers that operate solely within a province fall within that province's jurisdiction.

For-hire motor carriers are defined as those that haul freight for others for compensation. They offer either truckload (TL) or less-than-truckload (LTL) services, or a mix of the two. These carriers are further categorized according to the types of freight they carry, such as general freight, household goods, liquid and dry bulk, forest products and other specialized freight. In 2005, there were over 10,000 (approximate) for-hire motor carriers in Canada, compared with 9,900 in 2004.

In 2005, rankings by revenue of the 100 largest for-hire trucking operations¹ in the United States and Canada included six Canadian carriers: TransForce Income Fund (22nd), Montreal, Quebec; Trimac Transportation Services (43rd), Calgary, Alberta; Day and Ross Transportation group (50th), Hartland, New Brunswick; Vitran Corp (60th), Toronto, Ontario; Contrans Income Fund (73rd), Woodstock, Ontario; and Mullen Group Income Fund (95th), Aldersyde, Alberta.

In 2006, based on total number of fleets' units (straight trucks, tractors and trailers), the top 10 for-hire trucking companies² in Canada were TransForce Income Fund (15,500 units); Contrans Income Fund (8,380 units); TransX, Winnipeg, Manitoba (4,860 units); SLH Transport, Kingston, Ontario (4,800 units); Challenger Motor Freight, Cambridge, Ontario (4,780 units); Day and Ross Transportation Group, Hartland, New Brunswick (4,186 units); Robert Transport/Groupe Robert, Boucherville, Quebec (3,810 units); Paul's Hauling Group, Winnipeg, Manitoba (3,700 units); Trimac Transportation Services, Calgary, Alberta (3,600 units); and Canada Cartage Diversified Income Fund, Mississauga, Ontario (3,400 units).

TABLE 7-1: LENGTH OF PUBLIC ROAD NETWORK IN CANADA

	Length (two-lane equivalent thousand km)			Provinces Territories share of total (per cent)	Percentage distribution	
	Paved	Unpaved	Total		Paved	Unpaved
Newfoundland and Labrador	10.6	8.6	19.3	1.8	55.2	44.8
Prince Edward Island	4.3	1.8	6.0	0.6	70.8	29.2
Nova Scotia	18.1	9.0	27.1	2.6	66.8	33.2
New Brunswick	19.5	12.0	31.5	3.0	61.9	38.1
Quebec	81.5	63.2	144.7	13.9	56.3	43.7
Ontario	119.8	71.1	191.0	18.3	62.8	37.2
Manitoba	19.3	67.3	86.6	8.3	22.3	77.7
Saskatchewan	29.5	198.7	228.2	21.9	12.9	87.1
Alberta	61.7	164.6	226.3	21.7	27.3	72.7
British Columbia	48.2	22.9	71.1	6.8	67.8	32.2
Yukon	2.2	3.5	5.8	0.6	38.5	61.5
Northwest Territories	0.9	3.6	4.5	0.4	19.2	80.8
Nunavut	-	0.3	0.3	0.0	0.0	100.0
	415.6	626.7	1,042.3	100.0	39.9	60.1

Note: Estimates are not comparable with figures reported in previous annual reports.

Source: National Road Network (Edition 1.00)

1 Transport Topics, July 24, 2006.

2 Motor Truck, January/February 2007 issue.

The year 2006³ saw changes in the industry (acquisitions, strategic alliances and mergers of motor carriers). Canada's largest for-hire trucking operation, TransForce Income Fund of Montreal, continued to acquire firms serving the energy sector in Western Canada, including Byers Transportation, an Edmonton-based LTL carrier; Howard Transportation, a specialized carrier based in Alberta; and Westfreight Systems involved in oilfield transportation services. Contrans Income Fund acquired the Saint John-based General Freight Carriers, a flatbed carrier, and Spectrum Transport, a Calgary-based dry bulk carrier. As for the Mullen Group Income Fund, it reported six acquisitions of over \$1.2 billion in 2006: four were trucking operations involved in the energy sector (Spearing Service, Burnell Contractors, Canada Dewatering and the Brady Group) while the others were a flat deck carrier and a logistics carrier (Steen and Kleysen).

Owner-operators own and drive their own trucks and operate as small independent for-hire truckers hauling trailers for other carriers or directly for a shipper. By using owner-operators, trucking companies can expand or contract their capacity in response to changing market conditions. There were an estimated 36,000 owner-operators in Canada in 2005, compared with 35,200 in 2004.

Couriers and parcel-delivery firms are considered to be part of trucking activity because they operate trucks and provide some of the same services as for-hire carriers. However, there are relatively few trucks used in the courier industry — approximately 2,200 — as most companies use small cube vans, automobiles and even bicycles for deliveries. Operations include same-day messenger delivery and overnight or later delivery. In 2005, the courier industry generated an estimated \$6.4 billion in total revenues, based on average volumes of 2.4 million packages per day. There are approximately 20,000 small courier companies that generate revenues less than \$1 million annually. While accounting for 97 per cent of the total number of courier companies, these companies generate only 18 per cent of total courier revenues.

Private trucking is that part of the industry not covered by the for-hire segment. It includes companies that primarily haul their own freight but that occasionally haul goods for others for compensation. The value of these services is captured under some other, non-trucking part of the national accounts (e.g. farming or manufacturing) because these trucks are operated by someone working for an industry other than for-hire trucking. Most companies that haul their own products in trucks they own

do not ordinarily record revenues for this operation. At \$30.2 billion, the estimate for private trucking is better viewed as the operating costs of trucks for these companies. Caution should be exercised in using this estimated value. To estimate the value of private trucking in 2005, the percentage increases/decreases in the for-hire sector since 1998 were applied to the value of private trucking as calculated in the January 1998 study *Profile of Private Trucking in Canada*.

Other includes that part of the industry using trucks for purposes other than hauling freight commercially. For example, a construction company uses trucks and trailers to transport heavy machinery between job sites. Municipal governments, which use trucks as platforms for specialized equipment such as a garbage packer, tree-trimmer, crane or snowplow, run some of the largest fleets on the road.

In terms of annual business bankruptcies, the number of trucking bankruptcies has steadily decreased in last five years and in 2006 stood at 451, the lowest total since 1998. The number of trucking bankruptcies decreased 20 per cent in 2004, 14 per cent in 2005 and 11 per cent in 2006. These decreases are more pronounced than those observed for other sectors of the economy. Addendum Table A7-1 shows the number of trucking bankruptcies compared with the economy by region from 1990 to 2006.

In terms of revenues, general freight carriers continue to dominate the for-hire sector, accounting for almost 60 per cent of for-hire revenues in 2005. Specialized freight accounted for 17 per cent of total revenues. Table 7-2 compares the revenues of all for-hire trucking firms by the type of freight carried from 2000 to 2005.

Table 7-3 shows total for-hire trucking revenues by size of carrier from 2000 to 2005, as measured by four categories of earned annual revenues: less than \$1 million, \$1 million to \$12 million, \$12 million to \$25 million, and \$25 million or more. Since 1991, total revenues have tripled. Large carriers (earning between \$12 million and \$25 million), however, have seen the proportion of their revenues increase from 11 per cent in 1991 to 21 per cent in 2000 to almost 28 per cent in 2005. Addendum tables A7-2 and A7-3 show the same information over a longer time series.

Reported sales of Class 8⁴ trucks have fluctuated yearly. This has been driven by a number of factors, including the profitability of carriers, the demand for trucking services and carriers' fleet replacement policies. Market conditions tend to drive increases or decreases in the demand for

3 Press release and companies' Web sites.

4 Class 8 includes trucks with a gross vehicle weight exceeding 15,000 kilograms.

TABLE 7-2: FOR-HIRE CARRIER REVENUES BY ACTIVITY SECTOR, 2000 – 2005

(Millions of dollars)

Activity Sector	2000	2003	2005 ¹	Share in per cent of total		
				2000	2003	2005
General freight	12,953	14,407	18,054	58.6	59.3	59.4
Movers	794	597	818	3.6	2.5	2.7
Liquid bulk	1,773	1,719	2,719	8.0	7.1	8.9
Dry bulk	1,557	2,049	2,262	7.0	8.4	7.4
Forest products	1,214	1,093	1,325	5.5	4.5	4.4
Other specialized freight	3,812	4,443	5,214	17.2	18.3	17.2
Total	22,103	24,308	30,392	100.0	100.0	100.0

(Estimated number of carriers)

Activity Sector	2000	2003	2005 ¹	Share in per cent of total		
				2000	2003	2005
General freight	3,248	3,659	4,014	34.9	38.8	39.7
Movers	374	515	551	4.0	5.5	5.5
Liquid bulk	692	750	931	7.4	8.0	9.2
Dry bulk	1,666	1,689	1,793	17.9	17.9	17.7
Forest products	1,252	655	686	13.4	7.0	6.8
Other specialized freight	2,085	2,156	2,131	22.4	22.9	21.1
Total	9,317	9,424	10,106	100.0	100.0	100.0

Note: Including motor for-hire carriers of freight earning annual revenues of \$30,000 or more.

¹ Small for-hire carriers estimated for 2005.

Sources: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCf) (2000-2005) and Annual Motor Carriers of Freight Survey (small for-hire carriers), Service Bulletin Cat. 50-002

TABLE 7-3: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIERS, 2000 – 2005

Year	Small Carriers (Less than \$1 million)		Medium Carriers (\$1 – \$12 million)		Large Carriers (\$12 – \$25 million)		Top Carriers (Over \$25 million)		Grand Total Revenues (Millions of dollars)
	Revenues	Share (per cent)	Revenues	Share (per cent)	Revenues	Share (per cent)	Revenues	Share (per cent)	
	(Millions of dollars)	of total	(Millions of dollars)	of total	(Millions of dollars)	of total	(Millions of dollars)	of total	
2000	1,366	6.2	9,514	43.0	4,660	21.1	6,562	29.7	22,103
2001	1,512	6.3	11,277	47.1	4,506	18.8	6,662	27.8	23,958
2002	1,586	6.7	10,073	42.7	5,091	21.6	6,859	29.1	23,609
2003	1,625	6.7	9,896	40.7	5,561	22.9	7,226	29.7	24,308
2004 ¹	1,700	6.0	11,939	42.2	7,292	25.7	7,391	26.1	28,322
2005 ¹	1,740	5.7	11,864	39.0	8,396	27.6	8,392	27.6	30,392

Note: Including motor for-hire carriers of freight earning annual revenues of \$30,000 or more.

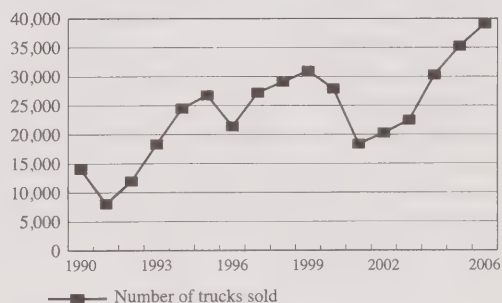
¹ Small for-hire carriers revenues estimated for 2004 and 2005.

Sources: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCf) (2000-2005) and Annual Motor Carriers of Freight Survey (small for-hire carriers), Service Bulletin Cat. 50-002

many trucking services. Swings in these market conditions tend to be exacerbated in the final demand for trucking services. Following the 2001 economic slowdown in both Canada and the United States, truck sales in Canada have increased steadily each year, reaching an all time record of 39,131 vehicles in 2006. Figure 7-1 shows the sales of Class 8 trucks from 1990 to 2006.

BUS INDUSTRY

The Canadian bus industry provides a variety of services, and individual operators and corporate owners commonly provide services in several of the recognized categories.⁵ This makes it difficult to categorize the service provided the industry as a whole. For example,

FIGURE 7-1: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2006

Source: Canadian Vehicle Manufacturers' Association

⁵ The North American Industrial Classification System (NAICS) has been used in Canada since 1997. The bus industry is grouped under six headings: urban transit systems; interurban and rural bus transportation (scheduled intercity); school and employee bus transportation; charter bus industry; other ground passenger transportation (shuttle); and scenic/sightseeing transportation.

Laidlaw International Inc. is a major school bus operator while at the same time, as Greyhound, the largest provider of scheduled intercity service in Canada and the United States. Most bus operators in all categories offer some form of charter bus service.

Scheduled Intercity Service — Intercity bus service links all Canadian provinces and territories except Nunavut. Greyhound (and its subsidiaries) is the largest operator in Canada and primarily operates in Ontario and the four western provinces. As noted, it is owned by Laidlaw. In Quebec and the Maritime Provinces, the major service provider is Groupe Orléans, which operates as Orléans Express in Quebec and Acadian in the Maritimes. There are also a number of smaller regional and local carriers, particularly in Quebec.

Charter, Tour, Shuttle and Other Commercial Services — A wide range of other bus services is also available in Canada. Charter and tour operators primarily serve the discretionary travel market. One of the most common forms of shuttle busing is airport service. In addition, some commercial carriers provide contracting busing, that is, regular service to a particular group such as workplace travel paid for by the employer. Some of the larger companies provide all these services and others besides, the most prominent example being Pacific Western Transportation Ltd. Others concentrate on the charter/tour market, examples being Brewster Transportation & Tours, and Coach Canada. Pacific Western and Coach Canada also offer scheduled service in Alberta and Ontario, respectively.

School Service — As the name implies, school bus carriers provide bus service to transport students to and from school. In some instances, the service is provided directly by the school administration, but most commonly in Canada, school bus service is contracted to private operators. Besides Laidlaw, the larger school bus operators include First Bus, Pacific Western and Stock Transportation. Most school bus operators also provide some charter service.

Urban Transit Service — Transit service is available in over 90 cities, towns, regional municipalities and other urban entities in all Canadian provinces and two of the territories. Over 20 million Canadians, using buses, coaches, trolleys, street cars, light rail, heavy rail, and even vans and taxis, make use of these services each

year. Some urban transit operators offer school bus and charter services and dedicated services to persons with disabilities.

BUS TRANSPORTATION

In Canada, approximately 1,500 bus operators move more than 1.5 billion passengers each year. In 2005, the Canadian bus industry generated an estimated⁶ \$8.5 billion in total revenues, including government operating and capital contributions. This industry can be looked at either by segment (i.e. by main company activity as classified under NAICS) or by service lines (or service activities) performed.

Bus segments (NAICS) — In 2005, urban transit was once again the largest segment, capturing almost 70 per cent of total industry revenues including government contributions (or 49 per cent of total revenues excluding government contributions). Operating and capital contributions from governments accounted for 56 per cent of urban transit operators' total revenue. Urban transit operators are typically dedicated to transit operations, with only a fraction of their revenues coming from other service lines.

The school bus segment was the second largest segment, capturing around 25 per cent of total bus revenues (excluding government contributions). Intercity operators and charter/tour operators followed. Almost all those operators, regardless of their primary business, provided other service lines, demonstrating the varied nature of the industry.

Service Lines — The industry sectors have been clouded over the past number of years due to industry diversification, mergers and acquisitions, and consolidated reporting. As a result, the "segment" approach is less reliable⁷ in evaluating the bus industry, while the "service line" approach gives a better indication of industry activity. Overall, the industry grew from \$5.2 billion in 1995 to \$8.5 billion in 2005, an average annual growth of five per cent. This growth, however, was unevenly distributed among service lines, averaging between nil growth for "other passenger revenues" and 5.9 per cent for "urban transit" services, followed by "charters, shuttle and sightseeing" services at 5.8 per cent.

6 Estimates of the bus industry revenues by Transport Canada, as Statistics Canada passenger bus and urban transit survey results for 2005 were not released (under revision).

7 For example, from 1995 to 2000, the "segment" approach did not adequately measure the bus industry, as some scheduled intercity carriers were recorded under school bus operators due to consolidated financial reporting coming from mergers and acquisitions. This was one of many factors that triggered the redesign by Statistics Canada of a new passenger bus survey (implemented in 2001) to collect both industry and activity data.

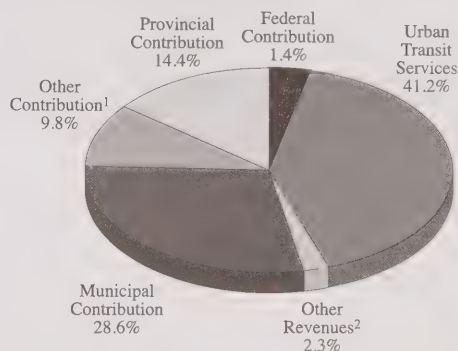
A new bus survey that captured a larger number of companies⁸ indicates that service line revenues have been somewhat higher since 2001. Urban transit services (including urban transit operators and other operators offering transit services) carried an estimated 1,720 million passengers in 2005, 2.5 per cent more than in 2004. Transport Canada estimates that intercity services carried 16.0 million passengers in 2005, almost three per cent more than in 2004. Table 7-4 shows bus revenues by service lines from 1995 to 2005. Addendum Table A7-7 shows numbers of passengers carried by the bus industry from 1985 to 2005.

URBAN TRANSIT

In 2005, urban transit operators reported revenues of \$6.0 billion, up 15 per cent from 2004. The main source of revenues was once again government contributions, at 56 per cent of the total, followed by urban transit services at 41 per cent. From 1995 to 2005, urban transit systems' operating revenues grew at an average annual rate of 5.4 per cent. Government contributions, however, showed some fluctuations over the period, including a large increase in 2005. As a result, the government contribution's share of total urban transit revenues reached 57 per cent in 2005; this is the same level as in 1995 after decreasing to a proportion of 53 – 54 per cent in early 2000. Addendum Table A7-4 shows revenue services offered by urban transit operators over the 1995 – 2005 period. Figure 7.2 illustrates revenue sources for urban transit operators in 2005.

In the early 1990s, ridership levels on urban transit decreased, reaching a low of 1,353 million passengers in 1996. Since then, with the exception of a small decrease in 2001, ridership has increased steadily, peaking at 1,661 million passengers in 2005. This was the highest level in the last two decades. The distance travelled by urban transit vehicles followed a similar pattern. Vehicle-kilometres jumped from a low of 716.4 million in 1996 to

FIGURE 7-2: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2005



1 Other contribution includes dedicated taxes, transfers from regional agencies, Reserve Funds.
2 Other revenues include charter, school bus and other passenger bus services.

Source: Transport Canada tabulation, adapted from Canadian Urban Transit Association (CUTA) data.

TABLE 7-4: BUS INDUSTRY REVENUES BY SERVICE LINES, 1995 – 2005

(Millions of dollars)

	1995	1998	2000	2001 ¹	2002	2003	2004 ²	2005 ³	Average Annual Growth Rate 1995 – 2005 (Per cent)
Number of companies	878	1,110	968	1,813	1,715	1,497	1,514	1,510	
Business Lines									
Urban transit services	1,484	1,694	1,956	2,092	2,234	2,346	2,507	2,633	5.9
School bus transportation	864	894	964	1,112	1,220	1,201	1,218	1,231	3.6
Charters, shuttle & sightseeing services	318	369	449	469	506	513	528	559	5.8
Scheduled intercity services	246	240	271	332	329	349	369	378	4.4
Other passenger/operating revenues	216	216	225	246	283	218	222	228	0.5
Parcels express delivery	79	87	96	98	100	101	105	108	3.2
Total (excluding government contributions)	3,207	3,499	3,961	4,349	4,672	4,729	4,949	5,137	4.8
Government contributions ⁴	2,036	2,386	2,271	2,355	2,440	2,790	2,747	3,405	5.3
Total	5,243	5,885	6,231	6,703	7,112	7,519	7,695	8,542	5.0

1 From 1995 to 2000: Including bus operators with annual revenues greater than \$200,000; Starting 2001, a new 'Passenger bus and urban transit' survey was initiated by Statistics Canada covering a greater number of bus companies (no threshold revenues).

2 Preliminary data for 2004.

3 Estimated data by Transport Canada.

4 Including operating and capital government contributions for urban transit.

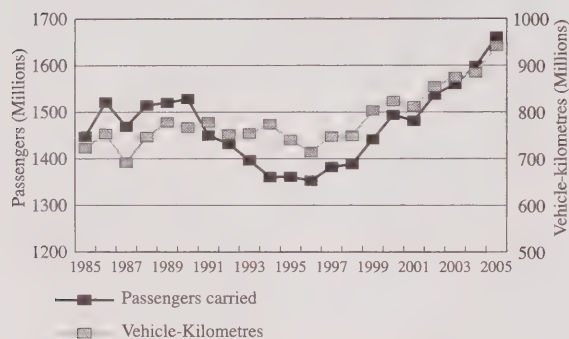
Sources: Transport Canada, adapted from Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-215, and Statistics Canada, Service Bulletin, Cat. 50-002; special tabulation based on NAICS and Canadian Urban Transit Association (CUTA).

8 From 1994 to 2000, the passenger bus and urban transit survey covered companies having annual gross revenues of \$200,000 or more. Starting in 2001, however, the new passenger bus survey has covered all companies that have at least one bus establishment engaged in the provision of bus and urban transit services.

943.6 million in 2005, an average annual increase of 2.3 per cent. For ridership and distance data over a longer period, see Table A7-5 in the Addendum. Figure 7-3 illustrates long-term trends in the urban transit sector from 1985 to 2005.

In terms of vehicles, the urban transit fleet increased at an average annual rate of almost two per cent from 1995 to 2005, from 13,140 to 15,580 units. The main change in the fleet composition over this period was the replacement of standard buses by more accessible, low-floor buses, which increased from 305 to 5,952 units. Low-floor motor buses, which represented three per cent of total standard motor buses used by transit authorities in 1995, accounted for 51 per cent of the total standard bus park in 2005. See Addendum Table A7-6 for details on urban transit fleet composition over the 1995 – 2005 period.

FIGURE 7-3: LONG-TERM TREND IN URBAN TRANSIT, 1985 – 2005



Source: Statistics Canada, "Passenger bus and urban transit statistics", Cat. 53-215; special tabulations based on Canadian Urban Transit Association (CUTA) data

PASSENGER TRANSPORTATION

LIGHT VEHICLE FLEET AND USE

There were 17.9 million light vehicles registered in the ten provinces according to the 2005 Canadian Vehicle Survey. (Survey data refer to in-scope vehicles with a gross weight less than 4,500 kilograms.) Of these, passenger cars and station wagons accounted for 10.3 million, vans for 2.9 million, sport-utility vehicles for 1.4 million and pickup trucks for 3.3 million. As a group, light trucks and vans represented 42 per cent of the light vehicle fleet. As Table 7-5 shows, vans and light trucks were driven eight per cent more on average than passenger cars, amassing 16,700 kilometres per year compared with 15,400 kilometres. Cars and station wagons were driven 159 billion vehicle-kilometres, or

TABLE 7-5: LIGHT VEHICLE FLEET STATISTICS, 2005

	Car / station wagon	Light trucks/vans				Other	Total light vehicles
		Van	Sport-utility	Pickup truck	Sub-total		
Vehicles (Millions)	10.3	2.9	1.4	3.3	7.6	0.1	17.9
Per cent share	57.5	16.1	7.8	18.2	42.1	0.4	100.0
Vehicle-km (Billions)	159.3	53.5	23.2	49.2	125.9	1.9	287.1
Per cent share	55.5	18.6	8.1	17.1	43.9	0.7	100.0
Passenger-km (Billions)	257.6	111.7	45.0	76.8	233.6	2.5	493.7
Per cent share	52.2	22.6	9.1	15.6	47.3	0.5	100.0
Litres of fuel (Billions)	14.4	6.2	3.0	6.8	16.0	0.2	30.7
Per cent share	47.0	20.3	9.7	22.3	52.3	0.7	100.0
Average distance driven (Thousands of km)	15.4	18.5	16.5	15.0	16.7	27.0	16.0
Persons per vehicle	1.62	2.09	1.94	1.56	1.86	1.32	1.72
Fuel efficiency (L/100km)	9.0	11.6	12.8	13.9	12.7	11.7	10.7

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2005 Annual Averages

about 56 per cent of total vehicle-kilometres. Vans and light trucks were driven 126 billion vehicle-kilometres, or 44 per cent of the total. While cars and station wagons accounted for slightly more light-vehicle passenger-kilometres than vans and light trucks, at 52 per cent compared with 47 per cent, vans and light trucks had higher per vehicle occupancies than passenger cars, at 1.86 persons per light truck or van compared with 1.62 per cars and station wagons.

There was a wide gap in fuel efficiency between cars and the heavier trucks and vans. Calculated fuel efficiency for cars and station wagons averaged 9.0 L/100 km, about 30 per cent lower than the 12.7 L/100 km for vans and trucks.

With few exceptions, the distribution of light vehicles, vehicle-kilometres and passenger-kilometres by province/territory broadly followed the distribution of population (see Table 7-6). In terms of motorization (number of vehicles per capita), most jurisdictions were near the overall average of 557 vehicles per 1,000 people. The exceptions were Alberta, Saskatchewan and the Yukon, which were 10 per cent higher than the average, and Newfoundland and Labrador, the Northwest Territories and Nunavut, which were at least 13 per cent below the average. Nationally, annual average vehicle use stood at 16,000 kilometres, ranging from a low of 13,800 kilometres in British Columbia to a high of 18,000 in Nova Scotia. (Nunavut averaged less than 9,000 km per year.)

TABLE 7-6: LIGHT VEHICLE STATISTICS BY PROVINCE/TERRITORY, 2005

	Vehicles (Thousands)	Vehicle- kilometres (Billions)	Passenger- kilometres (Billions)	Litres of fuel purchased (Billions)	Vehicles per 1,000 population	Averages		
						Average distance driven (Thousands)	Passengers per vehicle	Average fuel efficiency (L/100km)
Newfoundland and Labrador	249	4.1	7.0	0.4	485	16.7	1.7	10.6
Prince Edward Island	76	1.3	2.2	0.1	551	16.6	1.8	9.7
Nova Scotia	523	9.4	15.4	0.9	558	17.9	1.6	9.9
New Brunswick	436	7.6	14.1	0.8	581	17.4	1.9	10.3
Quebec	4,204	61.2	104.4	6.1	553	14.6	1.7	10.0
Ontario	6,728	115.4	201.1	11.8	536	17.2	1.7	10.2
Manitoba	621	9.3	15.6	1.1	529	15.0	1.7	11.4
Saskatchewan	649	9.7	16.3	1.1	656	14.9	1.7	11.8
Alberta	2,207	38.0	67.4	4.5	673	17.2	1.8	11.9
British Columbia	2,253	31.1	50.3	3.6	529	13.8	1.6	11.4
Yukon	24	0.4	N/A	N/A	769	14.7	N/A	N/A
Northwest Territories	20	0.3	N/A	N/A	476	13.4	N/A	N/A
Nunavut	3	0.03	N/A	N/A	103	8.7	N/A	N/A
Canada	17,994	287.7	493.7	30.5	557	16.0	1.7	10.7

Percentage distribution

Newfoundland and Labrador	1.4	1.4	1.4	1.4	87.0	104.2	98.8	100.5
Prince Edward Island	0.4	0.4	0.4	0.4	98.8	103.5	102.1	91.6
Nova Scotia	2.9	3.3	3.1	3.0	100.2	112.2	95.6	93.4
New Brunswick	2.4	2.6	2.9	2.6	104.2	108.6	108.6	97.5
Quebec	23.4	21.3	21.1	20.1	99.3	91.0	99.4	94.4
Ontario	37.4	40.1	40.7	38.8	96.2	107.3	101.5	96.7
Manitoba	3.5	3.2	3.2	3.5	94.9	93.8	97.3	108.0
Saskatchewan	3.6	3.4	3.3	3.7	117.7	93.0	98.3	111.6
Alberta	12.3	13.2	13.6	14.8	120.9	107.7	103.3	111.9
British Columbia	12.5	10.8	10.2	11.6	95.0	86.4	94.2	107.6
Yukon	0.1	0.1	N/A	N/A	138.0	91.8	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	85.5	83.7	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	18.4	54.5	N/A	N/A
Canada	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Canadian Vehicle Survey, 2005 Annual Averages

Average vehicle occupancies in most provinces were 1.7 persons per vehicle or close to it. Average light vehicle fuel efficiency varied from a low of 9.7 L/100 km in Prince Edward Island to a high of 11.9 L/100 km in Alberta.

In 2004, changes were introduced to the trip log. As a result, trip purpose has been revised to reflect origins and destinations visited instead of a stated reason for making the trip. Table 7-7, listing the distribution of light vehicle travel by trip origin, shows that nearly half the vehicle-kilometres driven started at the driver's home. Commuting from the normal place of work accounted for 13 per cent of total vehicle-kilometres, followed by trips from someone else's home, at 10 per cent, and trips from shopping centres, at just over eight per cent. Trips to leisure-type destinations accounted for 6.6 per cent of travel.

TABLE 7-7: LIGHT VEHICLE VEHICLE-KM BROKEN DOWN BY TRIP ORIGIN, 2005

Place	Vehicle-km	Share (per cent)
Driver's home	133.5	46.5
Someone else's home	29.1	10.1
Driver's regular workplace	37.9	13.2
Another workplace	10.7	3.7
School/day care	4.9	1.7
Shopping centre/bank/other place of personal business	23.7	8.2
Medical/dental facility	3.5	1.2
Leisure/entertainment/recreational facility/ restaurant	19.1	6.6
Gas station/rest stop	12.8	4.5
Other	11.9	4.1
Total	287.1	100.0

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2005 Annual Averages

In 2005, over 40 per cent of the light vehicle fleet was five years of age or less, while about one third of the fleet was 10 years of age or older. Younger vehicles were driven more on average than older vehicles, ranging from about 20,000 kilometres per year for vehicles under three years old, to 15,600 kilometres per year for vehicles six to nine years old, to only 10,100 for vehicles 14 years or older. Average light vehicle fuel efficiency was very similar for all vehicles less than 14 years of age, at a little under 11 L/100 km. Vehicles 14 or older had a fuel consumption ratio 17 per cent higher than the average. Table 7-8 breaks down light vehicle statistics by age of vehicle.

FREIGHT TRANSPORTATION

HEAVY TRUCK FLEET BY PROVINCE/TERRITORY

The Canadian Vehicle Survey provides information on the heavy truck fleet and its use characteristics (see Table 7-9). In 2005, there were 321,000 medium trucks registered (weighing between 4,500 and 15,000 kilograms) and 294,000 heavy or Class 8 trucks (weighing over 15,000

kilograms), for a total of nearly 615,000 such trucks. Three quarters of the Class 8 heavy truck fleet was concentrated in three provinces (Ontario with 37 per cent, Alberta with 25 per cent and Quebec with 13.5 per cent). The medium truck fleet was concentrated in five provinces, which shared about 90 per cent of the total. The distribution of vehicle-kilometres in 2005 was heavily tilted in favour of heavy trucks over medium trucks, at 21.5 billion versus about six billion. The distribution of heavy truck vehicle-kilometres was even more concentrated in Ontario, Alberta and Quebec, as these provinces accounting for 80 per cent of the kilometres driven.

On average, heavy trucks were driven 73,000 kilometres per year, about four times as much as medium trucks, which were driven 19,000 kilometres per year. This discrepancy is no surprise, given a huge difference in vehicle-kilometres despite similar numbers of trucks. The variation in heavy truck average distance driven by province was also substantial, ranging from a low of 24,000 per vehicle in Prince Edward Island to a high of 107,000 per vehicle in Quebec. Medium truck use across jurisdiction also varied widely, from a low of only 6,000 in P.E.I. to over 22,000 in Quebec.

TABLE 7-8: LIGHT VEHICLE STATISTICS BY VEHICLE AGE, 2005

	Vehicles		Vehicle-km		Litres of fuel consumed		Average distance driven	Fuel consumption ratio
	Millions	Share	Billions	Share	Billions	Share	(Thousands of km)	(L/100 km)
Less than 3 years	3.3	18.2	65.7	22.9	7.0	22.9	20.1	10.7
3 – 5 years	4.3	23.7	82.7	28.8	8.3	27.1	19.5	10.0
6 – 9 years	4.6	25.7	72.1	25.1	7.7	25.1	15.6	10.7
10 – 13 years	3.2	17.7	39.9	13.9	4.3	14.1	12.5	10.8
14+ years	2.6	14.6	26.6	9.3	3.3	10.9	10.1	12.5
Total	17.9	100.0	287.1	100.0	30.7	100.0	16.0	10.7

Notes: Figures exclude the territories.

Figures may not add up due to rounding.

Source: Canadian Vehicle Survey, 2005 Annual Averages

TABLE 7-9: HEAVY TRUCK FLEET STATISTICS BY PROVINCE/TERRITORY, 2005

	Vehicles (Thousands)		Vehicle-km (Millions)		Percentage distribution			
	Medium	Heavy	Medium	Heavy	Vehicles		Vehicle-km	
					Medium	Heavy	Medium	Heavy
Newfoundland and Labrador	3.7	2.8	53	179	1.2	1.0	0.9	0.8
Prince Edward Island	1.4	2.5	9	59	0.4	0.8	0.1	0.3
Nova Scotia	7.0	8.1	116	582	2.2	2.8	1.9	2.7
New Brunswick	5.6	4.2	120	117	1.8	1.4	2.0	0.5
Quebec	47.5	39.8	1,054	4,252	14.8	13.5	17.5	19.7
Ontario	70.2	108.9	1,294	8,395	21.9	37.0	21.5	38.9
Manitoba	9.4	15.3	154	1,540	2.9	5.2	2.6	7.1
Saskatchewan	34.9	23.5	361	1,142	10.9	8.0	6.0	5.3
Alberta	81.2	72.7	1,571	4,564	25.3	24.7	26.1	21.2
British Columbia	57.5	13.9	1,253	523	17.9	4.7	20.8	2.4
Yukon	1.4	1.2	27	111	0.4	0.4	0.5	0.5
Northwest Territories	0.6	1.3	6	90	0.2	0.4	0.1	0.4
Nunavut	0.2	0.1	3	0	0.07	0.04	0.04	0.00
Canada	320.6	294.2	6,020	21,554	100.0	100.0	100.0	100.0

Notes: Medium trucks have a gross weight between 4.5 tonnes and 15 tonnes; heavy trucks have a gross weight of 15 tonnes or more.

Figures may not add up due to rounding.

Source: Canadian Vehicle Survey, 2005 Annual Averages

HEAVY TRUCK VEHICLE CONFIGURATIONS

Table 7-10 provides a different perspective on the medium/heavy truck fleet, one based on truck configuration of straight trucks (power unit and cargo area combined in a single chassis) versus tractor-trailers (power unit pulls cargo area in a separate trailer). In 2005, there were 339,000 trucks registered as straight trucks in the ten provinces compared with about 183,000 trucks classified as tractor-trailers. The remaining 88,000 trucks were classified as "other vehicles." While tractor-trailer combinations accounted for about 30 per cent of the fleet, they accounted for two thirds of the truck vehicle-kilometres, or 18.1 billion. Once again, this pattern was owing to the substantial difference in average distance driven per vehicle. Straight trucks were driven over 22,000 kilometres per year, while tractor-trailers were driven nearly 100,000 kilometres per year. Heavy truck fuel efficiency averaged about 33 L/100 km, with straight trucks averaging 31 L/100 km and tractor-trailers averaging 35 L/100 km.

Most medium trucks were characterized as straight trucks, and 85 per cent of the vehicle-kilometres driven used this format in 2005. Heavy trucks, by contrast, were dominated by various tractor-trailer combinations, the most popular being a tractor and one trailer (the conventional 18 wheeler). These accounted for over two thirds of the heavy truck vehicle-kilometres, while straight trucks accounted for only 15 per cent of the heavy truck vehicle-kilometres. Table 7-11 provides further details.

TABLE 7-10: TRUCK STATISTICS, BY CONFIGURATION, 2005

	Vehicles		Vehicle-km		Fuel (litres)		Average distance driven (thousands of kilometres)	Fuel efficiency (Litres/100km)
	thousands	share	billions	share	billions	share		
Straight truck	339	55.5	7.6	27.9	2.4	26.1	22.5	31.1
Tractor-trailer	183	30.0	18.1	66.3	6.3	69.8	99.1	35.0
Other	88	14.5	1.6	5.8	0.4	4.1	17.9	23.6
Total	610	100.0	27.3	100.0	9.1	100.0	44.8	33.2

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2005

TABLE 7-11: TRUCK VEHICLE-KM BY DETAILED CONFIGURATION, 2005

	Medium (per cent)	Heavy (per cent)
Straight truck	85.1	15.4
Tractor only	0.8	3.9
Tractor and 1 trailer	0.8	68.7
Tractor and 2 trailers	-	9.6
Tractor and 3 trailers	0.0	0.6
Other	13.3	1.8
Total vehicle-km (billions)	6.0	21.4

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2005

Table 7-12 shows the typical uses of medium and heavy trucks. Medium trucks were used for a mix of purposes: 60 per cent of the vehicle-kilometres were taken up with carrying goods or equipment, a traditional freight-hauling role, while 35 per cent were devoted to non-freight carrying functions such as making service calls. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private "trucking" business. Of the nearly six billion vehicle-kilometres driven in the 10 provinces, five per cent were done empty.

Heavy truck activity was dominated by the conventional goods-hauling role, as 75 per cent of the vehicle-kilometres reported were for carrying goods or equipment. Only 11 per cent were for other work purposes, and about 13 percent of the vehicle-kilometres were made empty.

FOR-HIRE/PRIVATE OPERATION

For-hire trucking operators are those companies that provide trucking services to other companies for profit, while private operators typically haul their own goods (e.g. bakeries, beer companies). Owner-operators are individuals who own their own truck and hire out trucking services to other individuals or companies, also for profit. They are like for-hire firms except on a much smaller scale. Table 7-13 presents a breakdown of heavy truck activity by for-hire/private operation in 2005.

TABLE 7-12: USE OF HEAVY VEHICLES, TEN PROVINCES, 2005

	Medium trucks		Heavy trucks	
	Vehicle-km	Share (per cent)	Vehicle-km	Share (per cent)
Carrying goods/equipment	3,603	60	16,088	75
Empty	298	5	2,861	13
Other work purpose	2,083	35	2,405	11
Total	5,984	100	21,354	100

Notes: Figures are in billions and refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2005

TABLE 7-13: HEAVY VEHICLE USE BY TYPE OF OPERATION, TEN PROVINCES, 2005

	Number of vehicles (thousands)			Vehicle-km (billions)			Average distance travelled (thousands of km)		
	Medium	Heavy	Total	Medium	Heavy	Total	Medium	Heavy	Total
Per cent									
For-hire	32.3	136.0	168.3	0.9	12.4	13.3	28.5	91.3	79.3
Owner-operator	44.9	63.9	108.8	0.9	5.0	6.0	20.3	79.0	54.8
Private	183.6	67.1	250.7	3.2	2.9	6.1	17.2	43.4	24.3
Other/unknown	57.5	24.6	82.1	1.0	1.0	2.0	17.1	39.6	23.8
Total	318.3	291.6	609.9	6.0	21.4	27.3	18.8	73.2	44.8

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes and exclude the territories and buses.
Figures may not add up due to rounding.

Source: Canadian Vehicle Survey 2005

Private trucking was concentrated in short-distance movements using largely medium-sized trucks. Nearly 58 per cent of the medium trucks registered were operated by private firms in 2005, compared with just 10 per cent for for-hire firms and 14 per cent for owner-operators. Moreover, medium-sized trucks made up about 75 per cent of the fleet operated by private firms. By contrast, private operators accounted for only 23 per cent of the heavy truck fleet, with for-hire operators accounting for 47 per cent and owner-operators accounting for about 22 per cent. For-hire fleets were dominated by heavy trucks, accounting for 80 per cent of the total. Overall, 41 per cent of the truck fleet was operated by private truckers with 28 per cent operated by for-hire truckers, 18 per cent by owner-operators and 13 per cent other/unknown.

Vehicle use was dramatically different between the for-hire and private trucking sectors. For-hire operators accounted for about half the vehicle-kilometres in 2005, owner-operators for 22 per cent and private operators for 22 per cent. Overall, for-hire trucks accounted for the majority of average distance driven, at almost 80,000 kilometres per year, compared with only 24,000 for private truckers and 55,000 for owner-operators. Heavy-class trucks run by for-hire companies logged more than twice as many kilometres than private trucking companies, with over 90,000 kilometres compared with 43,000 kilometres.

TRUCKING FREIGHT TRANSPORTATION

TRUCK TRAFFIC IN CANADA

A new Trucking Commodity Origin and Destination (TCOD) Survey has been developed and put in place by Statistics Canada, with 2004 as the reference year. At the time of publication of this report, some preliminary data were made available.⁹ In 2004, Canadian for-hire trucking firms earning with operating revenues of \$1 million or more carried 604.3 million tonnes, including 508.2 million tonnes domestically and 96.1 million tonnes at international level. Long-distance carriers accounted for 60 per cent of total tonnage carried. In the following analysis, trade data (value) will be used to approximate the truck traffic in 2005 and 2006.

TRUCK TRAFFIC BY SECTOR

Most recent data in domestic trade¹⁰ go back to 2003. The estimated value of goods traded at the domestic level by all modes was \$620 billion. Of this, \$447.1 billion (77 per cent) was traded intraprovincially, while \$142.6 billion (23 per cent) was traded interprovincially. Ontario dominated intraprovincial commodity trade, accounting for \$191.1 billion, or 40 per cent of the total. Quebec followed with a 21 per cent share, then Alberta at 17 per cent and British Columbia at 10 per cent.

A modal breakdown was not available from the "input-output" source. However, a rough estimate of the value of domestic trade carried by trucks could be derived from many sources, such as transportation surveys¹¹ for various modes (tonnes) and the Canadian Vehicle Survey. As shown in Table 7-14, Canadian for-hire trucks¹² carried over 80 per cent of total tonnage shipped

⁹ Statistics Canada, The Daily, Cat. 11-001, March 16, 2007.

¹⁰ Interprovincial trade flows are estimated using the provincial National Accounts Information System, which is based on inputs and outputs. Statistics Canada recently issued a new time series (1997 – 2003) based on the new North American Industry Classification System (NAICS) but this does not include a modal breakdown of the provincial trade flows.

¹¹ Trucking Commodity Origin and Destination (TCOD) survey; and other Statistics Canada surveys on the marine, rail and air modes.

¹² Canadian-domiciled local and long-distance for-hire trucking firms with annual revenues of \$1 million or more.

TABLE 7-14: SHARE OF FOR-HIRE TRUCKING TRAFFIC IN THE DOMESTIC SECTOR, 2004

	(Millions tonnes)					
	Modal share		Modal share		Modal share	
	Intraprovincial	(Per cent)	Interprovincial	(Per cent)	Total	(Per cent)
For-hire trucking	437.65	80.6	70.51	34.9	508.16	68.2
Rail	55.49	10.2	112.35	55.6	167.84	22.5
Marine	49.73	9.2	19.14	9.5	68.87	9.2
Air	N/A		N/A		0.47	0.1
Total	542.87	100.0	202.00	100.0	745.34	100.0

Note: N/A = Not available.

Source: Transport Canada, adapted from Statistics Canada, various publications on transportation

intraprovincially in 2004. Interprovincially, the rail mode dominated with 56 per cent of total tonnes shipped between provinces, followed by for-hire trucking at 35 per cent. The Canadian Vehicle Survey also indicated some estimates, according to sector, of vehicle-kilometres for all trucks weighing at least 4,500 kilograms. In 2005, around 65 per cent of all vehicle-kilometres by trucks were driven intraprovincially. It would be relatively safe to estimate, therefore, that at least 60 per cent of domestic trade activity is related to trucks. This figure is probably higher, as the traffic activity of private carriers, small for-hire carriers and owner-operators is not presently measured.

At the international level, international trade custom-based data provide the mode of transportation at the port of exit (export case) and at the port of clearance in the case of imports. In 2006, Canada's total exports shipped by trucks totalled \$185.8 billion, down from \$188.4 billion in 2005. The United States was the final destination for the quasi totality of these exports. The import picture is less clear because the mode at the port of clearance is not necessarily the same as at the port of arrival.¹³ As a result, imports by trucks were slightly overestimated at \$216.2 billion in 2005 (\$221.1 billion in 2006). The United States was the country of origin for commodities shipped by truck, amounting to \$164.7 billion in 2005 and \$166.0 billion in 2006.

COMMODITIES AND TRUCKING FLOWS

In domestic trade, construction materials were the main commodity groups carried. In 2003, these shipments were valued at \$151.1 billion (24 per cent of total domestic goods trade) and were moved almost exclusively within provinces. At \$105.8 billion (17 per cent), agricultural products ranked second and were followed far

behind by energy products (\$64.4 billion, 10 per cent) and primary metals, metal and mineral products (\$55.0 billion, nine per cent). Ontario, Quebec and Alberta dominated both intraprovincial and interprovincial trade, capturing almost 80 per cent of all domestic trade activity for goods. The Quebec–Ontario route (both directions) was the main interprovincial flow, accounting for \$40.4 billion worth of commodities, or 28 per cent of total interprovincial trade. The Alberta–Ontario route (both directions) followed at \$20.1 billion (14 per cent). Tables A7-8 to A7-12 in the Addendum provide more details on commodity groups and interprovincial flows.

In international trade, five commodity groups represented almost 80 per cent of total exports by trucks in 2005: automobiles and transport equipment (\$44.5 billion), machinery and electrical equipment (\$36.0 billion), other manufactured products (\$32.2 billion), plastic and chemical products (\$19.2 billion) and base metals / articles of base metal (\$18.2 billion). In 2006, the same commodities dominated in similar proportions. The same five groups captured 87 per cent of total truck-related imports reported in 2005: machinery and electrical equipment (\$67.4 billion), automobiles and transport equipment (\$47.1 billion), other manufactured products (\$32.9 billion), plastics and chemical products (\$24.3 billion) and base metals / articles of base metal (\$17.0 billion). The picture was similar in 2006.

The busiest transborder route was the Ontario–central U.S. region¹⁴ (both directions), which accounted for \$166.9 billion in 2005 or 29 per cent of total Canada–U.S. trade. This was followed by the Ontario–U.S. south region (\$71.6 billion) and the Ontario–U.S. northeast region (\$51.7 billion). Almost 80 per cent of shipments in these three routes were carried by trucks. The same trends prevailed in 2006. Tables A2-5 and A7-12 in the Addendum indicate more information of the routes and commodities carried.

13 In the case of imports, the mode of transport represents the last mode by which the cargo was transported to the port of clearance in Canada and is derived from the cargo control documents of customs. This may not be the mode of transport by which the cargo arrived at the Canadian port of entry in the case of inland clearance. This may, therefore, lead to some underestimation of Canadian imports by the marine and air transport modes.

14 The U.S. Central region includes states in the Great Lakes area: Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

CANADA–U.S BORDER CROSSING ACTIVITY

Commercial truck activity across the Canada–U.S. border oscillated in the range 13.2 to 13.4 million two-way trips between 2001 and 2005 before falling by three per cent in 2006 to 12.9 million two-way trips, the lowest count since 1998. Crossing activity remained below the 2000 peak for the sixth straight year. Daily truck crossings at Canada–U.S. border crossing points in 2006 remained over 35,000 movements, at 35,440 daily crossings.

Car crossings continued their steady decrease since 1997, falling to 56.3 million trips in 2006, the lowest level since 1985. Tables A7-13 and A7-14 in the Addendum compare the level of heavy truck activity and car movements at the top 20 border crossings in from 2002 to 2006.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

TRUCKING INDUSTRY

In 2005, total operating revenues¹⁵ of the trucking industry with motor carriers earning annual revenues of \$1 million and more were \$26.1 billion, up 8.6 per cent from 2004. Total operating expenses reached \$25.1 billion, up 11 per cent. As a result, the for-hire trucking industry saw its 2005 operating ratio increase to 96, compared with a ratio of 94 the year before. Return on assets was five per cent, slightly lower than the 2000 – 2005 average of six per cent.

Revenues generated per driver (excluding owner-operators) reached \$196,450 in 2005, up from \$192,388 in 2004. Revenues per kilometre for road tractors (excluding owner-operators) reached 2.8 cents, compared with an average of 2.3 cents for the 2000 – 2004 period. For 2005, fuel intensity per dollar of revenue generated remained the same as that for the previous five-year, that is, a yearly average of \$5.5 of operating revenues for every litre of fuel consumed. Tonne-kilometre figures over the same period were not available.

URBAN TRANSIT SYSTEMS

Revenues (excluding subsidies) generated by urban transit carriers' operations rose by 7.2 per cent in 2005. Quebec transit authorities registered the strongest growth, at 11.3 per cent. The Quebec results were achieved through increases of 6.2 per cent in the average fare and 4.3 per cent in the number of passengers carried, as well as a 19.2 per cent rise in non-passenger revenues.

Overall, total transit output in Canada increased by 2.7 per cent, based on increases of 3.9 per cent in passengers carried and 1.6 per cent in non-passenger revenues. Average fares also rose, by 3.5 per cent.

Transit systems are both labour- and capital-intensive, more so than other transport industries. These two factors of production represented 52 and 23 per cent, respectively, of total costs in 2005.

In 2005, total factor productivity of transit systems declined by 4.3 per cent. Capital productivity fell by 9.3 per cent and labour productivity decreased by 1.9 per cent. Energy efficiency declined by 1.1 per cent, while the productivity of other variable factors of production fell by 6.8 per cent.

Transit costs per unit of output rose by 2.8 per cent in 2005. Since 1998, total unit costs have increased by 22.9 per cent, for an annual average increase of 3.0 per cent.

The total costs of transit systems in Canada were estimated at \$5.6 billion in 2005. Cost recovery was measured at 46.7 per cent, a slight improvement over 2004 and the highest ratio registered since 1986. Annual operating subsidies rose to \$2.1 billion, up 10 per cent from 2004. Capital subsidies increased by \$367 million to \$1.2 billion. The federal government increased its capital contribution from \$73 million in 2004 to \$223 million in 2005.

Cost recovery ratios for 2005 were 49.7 per cent in Ontario, 44.7 per cent in Quebec, 44.6 per cent in British Columbia and 37.3 per cent in Alberta. Urban transit operations in the rest of Canada, which account for only five per cent of overall transit revenues, consistently show higher cost recovery rates than the four selected provinces. This ratio has been hovering around 50 per cent since 1996 and was at 48.9 per cent in 2005, slightly below Ontario's ratio.

Table 7-15 provides details of the performance of transit system in 2005.

TABLE 7-15: SELECTED PROVINCIAL SYSTEMS INDICATORS FOR URBAN TRANSIT, 2005

	Quebec	Ontario	Alberta	British Columbia	Rest of Canada	Canada
Price levels (Canada = 100)	80.0	117.1	76.9	111.0	86.4	100.0
Total unit cost (Canada = 100)	83.4	109.9	96.2	116.3	82.5	100.0
Cost recovery (in %)	44.7	49.7	37.3	44.6	48.9	46.7
Revenue shortfall per passenger (\$)	1.55	1.89	2.05	2.11	1.44	1.81

Source: Transport Canada, based on Statistics Canada and CUTA information

¹⁵ Financial data based on Statistics Canada Q5 Annual Supplement, which is more appropriate for analysis of for-hire trucking firms' balance sheets.

*The value of marine exports increased in 2005 by 11.8 per cent,
compared to a 9.6 per cent for imports.*

MAJOR EVENTS IN 2006

LEGISLATIVE AND REGULATORY CHANGES AND INITIATIVES

CANADA SHIPPING ACT AND REGULATORY REFORM UNDER THE *CANADA SHIPPING ACT, 2001*

The *Canada Shipping Act, 2001* (CSA 2001) received Royal Assent on November 1, 2001. However, until the regulations required in support of the new Act are in place, the existing *Canada Shipping Act* and its related regulations will remain in full force and effect.

There are two phases to the implementation of the new regulations. In Phase 1, which is expected to be completed in 2007, more than 50 existing regulations are being reformed and streamlined into an estimated 22 regulations. At that time, the CSA 2001 will come into force. In Phase 2, the remaining regulations will be modernized so they are consistent with the requirements of the new Act.

The CSA is the main legislation overseeing personal safety and environmental protection in Canada's marine sector. It applies to Canadian vessels operating anywhere and to foreign vessels operating in Canadian waters. This includes legislative and regulatory responsibilities relating to pleasure craft safety, marine navigation services, pollution prevention and response, and navigable waters, which were transferred from Fisheries and Oceans Canada to Transport Canada in 2003.

Transport Canada conducted extensive public consultations on the Phase 1 regulations at the spring and fall regional and national meetings of the Canadian Marine Advisory Council (CMAC). In addition, several individual projects conducted outreach sessions with

stakeholders at strategic locations across Canada. Most Phase 1 projects are now being finalized for approval and publication in Parts I and II of the *Canada Gazette*.

Some of the regulations to come out of Phase 1 of the CSA 2001 Regulatory Reform Project include Administrative Monetary Penalties Regulations; Ballast Water Control and Management Regulations; Cargo, Fumigation and Tackle Regulations; Collision Regulations; Competency of Operators of Pleasure Craft Regulations; Environmental Response Regulations; Fire Safety Regulations; Fishing Vessel Safety Regulations; Heritage Wreck Regulations; Load Line Regulations; Marine Personnel Regulations; Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals; Safety Management Regulations; Ships Registry and Licensing Fees Tariff; Small Vessel Regulations; Vessel Certificates Regulations; Vessel Clearance Regulations; Vessel Detention Orders Review Regulations; Vessel Operation Restriction Regulations; and Vessel Registration and Tonnage Regulations. For more information on the CSA 2001 Regulatory Reform Project, visit www.tc.gc.ca/marinesafety/menu.htm.

MARINE ATLANTIC REVITALIZATION STRATEGY

Based on extensive consultations, the concerns of users, and close cooperation with Marine Atlantic Inc., the federal government developed a long-term strategy to revitalize the ferry services provided by this Crown corporation. The strategy was announced in January 2007 and its first phase includes additional funding of \$54 million per year for the next five years; predictable tariff increases on constitutional services to be adjusted to the Consumer Price Index; implementation of a fuel surcharge as per standard industry practices; and a mandate given to the corporation's new Board of Directors to develop and implement a five-year plan to improve

service efficiencies, contain operating costs and save on fuel expenses. The Board has also been asked to continue advancing the fleet renewal plan that was submitted to the Government in 2006. More particularly, cost-benefit analyses and feasibility studies are required within the next two years to determine the specific requirements for the new ships and for ship refits. This information on the extent of the capital project is necessary for the Government to implement the second phase of the revitalization strategy aimed at renewing and upgrading Marine Atlantic's fleet. This active approach strikes a balance between the Canadian taxpayers' contribution to the service, the stakeholders' share of the cost of the service and the Crown corporation's effort to contain operational expenses while delivering an efficient service.

Short- And Long-Term Strategies for the Saint John – Digby Ferry Service

Bay Ferries has been operating the Saint John – Digby ferry service since 1997, when it was commercialized through a competitive tendering process. Bay Ferries has experienced significant challenges during the past few years, including large increases in fuel and insurance costs, and a significant decline in American visits to the Atlantic Region. Due to the financial operating losses on the Saint John – Digby ferry service, Bay Ferries announced in June 2006 that it would cease operating this specific route as of November 1, 2006. Recognizing the importance of this route to the regional economy, the federal government worked with its provincial counterparts to find a viable solution. Following an impact study, the federal government, the Province of New Brunswick and the Province of Nova Scotia announced in October 2006 that they would provide Bay Ferries with short-term financial assistance up to January 31, 2009. During this interim period, the federal government will work with stakeholders to identify a viable long-term strategy in line with the National Marine Policy and economic development imperatives.

NATIONAL MARINE AND INDUSTRIAL COUNCIL

The National Marine and Industrial Council (NMIC) was established in 2004 at the request of marine stakeholders. The objective of the Council is to provide a forum for the discussion of marine policy issues between marine industry executives and deputy ministers of federal departments that play a role in marine transportation. The Council also strives to raise the profile of Canada's marine transportation sector as an economic generator.

The NMIC includes senior representatives from cargo shippers, domestic and international shipowners, port operators and marine service providers from across the country, as well as from Transport Canada, Industry Canada, Fisheries and Oceans Canada, Foreign Affairs and International Trade Canada, and Environment Canada.

The Council meets twice a year, and inter-sessional activities are carried out by working groups with the support of the Council Secretariat, which is housed at Transport Canada. Key subjects of discussion include competitiveness, security, innovation and infrastructure.

SHORTSEA SHIPPING FOR INCREASING INTERMODALITY

In April 2006, Transport Canada, in collaboration with the U.S. Department of Transportation Maritime Administration and the Secretariat of Communications and Transport of Mexico, hosted the North American Marine Conference in Vancouver. The conference was the result of collaboration between the three nations following the signing of a Memorandum of Cooperation on Shortsea Shipping in 2003. The conference also contributed to fulfilling commitments under the Security and Prosperity Partnership, a trilateral action plan designed to increase the security, prosperity and quality of life in North America.

The conference promoted the shortsea shipping concept and facilitated discussion of the contribution of the marine mode within an integrated North American transportation system. Transportation officials from Canada, the United States and Mexico signed a declaration to demonstrate each government's commitment to continue trilateral cooperation and develop insights into the challenges associated with shortsea shipping. The declaration provides a general framework for developing a tripartite North American shortsea shipping steering committee with the objective of establishing an active relationship between the participants in order to share experience and professional knowledge.

Transport Canada continued in 2006 to pursue several studies and initiatives to understand and assess the opportunities, challenges, policy considerations and overall state of shortsea shipping in Canada, whether on the west or east coast, the St. Lawrence, the Great Lakes or in the Arctic. And, since 2004, Transport Canada has continued to be an active member of the Quebec Shortsea Shipping Roundtable. This roundtable works to create a clearinghouse for information and expertise, communicate information to stakeholders, and promote and support shortsea shipping projects.

CANADA MARINE ACT

Efforts were undertaken to amend the *Canada Marine Act* (CMA) in 2005. The proposed amendments followed the tabling of a June 2003 report pertaining to the first five years of operation of the Act. In 2006, Transport Canada, in consultation with financial experts, considered a number of key issues in order to further refine legislative amendments to the CMA in combination with enhanced policy initiatives focussed on increasing financial flexibilities for Canada Port Authorities. These consultations will be completed in early 2007 and will be used as key inputs to future CMA amendments and government activities in 2007/08.

INFRASTRUCTURE

CANADA'S PORTS AND HARBOURS SYSTEM

Canada's ports and harbours are an integral part of the national transportation system. They are crucial links in our domestic and international economic activities and vital gateways to the rail and road networks serving both Canada and the whole of North America.

As a trading nation, Canada's ports are key to ensuring our current and future economic prosperity and competitiveness in the global market — the vast majority of goods transported overseas to or from Canada are moved through ports. Emerging economies in Asia, Eastern Europe and South America, and the increased global economic activity they will create, will magnify the importance of Canadian ports. In order to compete in the global economy, Canada's ports and harbours will be relied on to ensure that the flow of goods to and from the country is completed seamlessly and efficiently.

Domestically, ports and harbours facilitate the distribution of goods to Canadian markets in a cost-effective and environmentally friendly manner while reducing strain on the country's road and rail infrastructure.

The National Marine Policy, announced in 1995, laid out a comprehensive program to change the policy and legislative framework for major elements of the transportation system that were government owned and operated. A key element of the policy was to bring a greater level of commercialization to the marine sector through a variety of measures. These include increasing

transparency; giving users a greater say in services offered and the costs of those services; improving the efficiency of management structures; eliminating outdated regulations/legislation; and, where feasible, letting the private sector deliver certain services.

To facilitate this restructuring, the National Marine Policy specified three categories of ports: (1) Canada Port Authorities (CPAs), (2) regional/local ports and (3) remote ports.

To achieve the objectives of the policy, a new, comprehensive law governing the marine sector, the *Canada Marine Act* (CMA) was adopted by Parliament in 1998. The ports comprising the National Port System, which includes former Canada Ports Corporations and harbour commissions, would operate under a new business and governance model as CPAs. In addition to strategic and economic criteria listed in the CMA, CPAs were also expected to have links to intermodal connections and diversified traffic.

Nineteen ports were given CPA status under the CMA: Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax.

CPAs are responsible for the business operations of the port within the policy framework set out by the CMA and further defined through Letters Patent established for each CPA.

CPAs were incorporated by Letters Patent for the purpose of operating a particular port. The Letters Patent set out, among other things, the geographic limits of the port and related navigable waters, the governance structure, the annual stipend (the gross revenue charge) to be made to the federal government, the extent to which a port authority may undertake certain activities, maximum lease terms, and borrowing limits.

CPAs act as agents of the Crown under the CMA for certain purposes. They have the authority to engage in activities related to shipping, navigation, transporting passengers and goods, and handling/storing goods. They can also engage in other activities deemed necessary to support port operations, as outlined in their respective Letters Patent; however, with respect to these activities, the CPAs are not agents of the Crown.

Although CPAs were granted the right to operate and manage a port, they cannot issue shares. They may be given Crown land to operate and manage, but not to own. They may, however, acquire and own land in their own name. To help cover costs, CPAs may also establish fair and reasonable fees for use of the facilities or services provided. CPAs may not discriminate among users of the port but they may differentiate in their fees and services based on the volume or value of goods or on any basis generally accepted commercially.

CPAs must also demonstrate public accountability. As set out in the CMA, each board of directors includes seven to eleven members. (All CPAs have seven members, except for Vancouver, which has nine). Each board appoints the officers of the CPA. A majority of each board is appointed in consultation with port users. In addition, the federal and respective provincial and municipal governments each appoint one director.

In addition, the CMA requires that each CPA make available to the public its audited financial statements. These should consist of, at the least, a balance sheet, statements of retained earnings, income and expenses, changes in financial position and remuneration paid to directors and senior management. Each CPA must also hold an annual meeting open to the public and provide adequate prior notice of these meetings.

Most Transport Canada-owned ports are regional/local ports. These range from ports with a high volume of regional and local traffic to smaller ports with little or no commercial activity. In accordance with the Port Divestiture Program, the federal government is terminating its operational and ownership interests in regional/local ports. This means transferring them to other federal departments, provincial governments or local interests.

Local interests include municipal authorities, community organizations and private interests. For remote ports serving as the primary transportation portals for isolated communities, Transport Canada will retain control and administration unless local stakeholders are willing to assume ownership of them.

PORT DIVESTITURE

Before the National Marine Policy came into force, Transport Canada controlled and administered 549 public ports and port facilities. Of these, 466 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2006, 83 sites remained under Transport Canada control. In addition, there are 20 sites where facilities have been transferred but cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2006.

As of December 31, 2006, 65 sites had been transferred to other federal departments and 40 had been transferred to provincial governments. Another 124 sites were divested to local interests. In addition, 26 sites have either been demolished or have had Transport Canada's interest terminated through lease or licence terminations.

Since the Ports Divestiture Program began, 273 public ports have been deproclaimed. Of these, archival research identified another 26 harbours beyond the original 549 port sites listed in the National Marine Policy. Transport Canada continues to administer 57 regional/local ports and 26 remote ports nationwide.

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2006

	<i>Federal</i>	<i>Provincial</i>	<i>Local</i>	<i>Total</i>
Federal Agency Ports				
Canada Port Authorities	19	N/A	N/A	19
Harbour Commissions	1	N/A	N/A	1
Ports Operated by Transport Canada				
Regional/Local	57	N/A	N/A	57
Remote	26	N/A	N/A	26
Ports Transferred¹				
From Transport Canada	65	40	124	229
Status of other former Transport Canada Ports				
Demolished	8	N/A	N/A	8
Interests terminated	18	N/A	N/A	18
Deproclaimed ²	211	N/A	N/A	211

Notes: N/A = Not available.

Additional detailed information on ports is presented in tables A8-1 and A8-2 in the Addendum. This includes summaries of the provincial distribution of the ports Transport Canada administered from 1996 to 2005 and the divestiture status of regional/local and remote ports on a regional basis.

1 Includes 18 sites where facilities have been transferred but the harbour bed has not yet been deproclaimed, 64 sites that were transferred to Fisheries and Oceans Canada and one site that was transferred to Health Canada.

2 Public harbours deproclaimed between June 1996 and March 1999.

Source: Transport Canada

FINANCIAL PERFORMANCE

For detailed financial information, see Addendum tables A8-3 to A8-6.

In 2005, the CPAs had operating revenues of \$309 million, down 0.4 per cent from 2004. Vancouver and Montreal accounted for 57 per cent of this total. Of the 19 CPAs, 12 reported increases in operating revenues ranging from of \$0.04 million to \$2.5 million. Montreal and Sept-Îles had the greatest increases, at \$2.5 million (3.2 per cent) and \$1.7 million (3.4 per cent), respectively.

Operating expenditures decreased by \$15.2 million, with individual decreases ranging from \$0.01 million to \$8.1 million. Eight CPAs reported higher expenses, ranging from \$0.07 million to \$1.2 million increases. The ports reported approximately \$11.3 million in total gross revenue charges, the same as in 2004. The port authorities spent \$112 million on capital projects in 2005.

In 2005, the ratio of operating expenditures as a percentage of operating revenues for the CPAs averaged 76 per cent. Individual ratios ranged from 47 per cent to 147 per cent, and the overall return on assets was four per cent.

All port authorities had a total net income of \$55 million. Seven CPAs had increases in net income ranging from \$0.2 million to \$2.4 million increases, while 12 had net losses ranging from \$0.07 million to \$4.2 million.

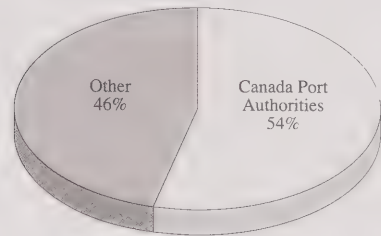
Based on some preliminary data, CPAs handled 249 million tonnes in 2005, up from 237 million tonnes in 2004. Five CPAs accounted for 70 per cent of total cargo by volume: Vancouver (35 per cent), Saint John (11 per cent), Montreal (10 per cent), Quebec City (9 per cent) and Sept-Îles (9 per cent). Revenues per tonne were \$1.24, down from \$1.31, while expenses per tonne were \$0.94, down from \$1.1 in 2004.

PORT TRAFFIC

In fiscal year 2005/06, Transport Canada's Port Programs had \$12.2 million in gross revenues. Combined with \$17.2 million in expenses, \$3.4 million in capital expenditures and \$58.7 million in grants and contributions for port divestiture transfers, this left a total net loss of \$67.1 million. For details, see Table A8-6 in the Addendum.

Figure 8-1 shows estimated traffic shares by port groups in 2005.

FIGURE 8-1: ESTIMATED TRAFFIC SHARES BY PORT GROUPS, 2005



1 "Other" ports represents locations owned and operated by Fisheries and Oceans Canada, provincial and municipal governments, or private facilities.

Source: Port Websites; Economic Analysis, Transport Canada

Following is the 2005 tonnage breakdown for CPAs: Vancouver, 76.5 million tonnes; Saint John, 27.5 million tonnes; Montreal, 24.3 million tonnes; Quebec, 22.7 million tonnes; Sept-Îles, 22.4 million tonnes; Halifax, 13.7 million tonnes; Fraser River, 15.9 million tonnes; Hamilton, 12.4 million tonnes; Thunder Bay, 8.2 million tonnes; Windsor, 5.5 million tonnes; North Fraser, 4.2 million tonnes; Prince Rupert, 4.4 million tonnes; Trois-Rivières, 2.5 million tonnes; Belledune, 2.2 million tonnes; Nanaimo, 1.9 million tonnes; Toronto, 2.4 million tonnes; St. John's, 1.4 million tonnes; Port Alberni, 1.0 million tonnes and Saguenay, 0.31 million tonnes. See Table A8-7 in the Addendum for the total tonnage handled by Canada's port system in 2004 – 2005.

SMALL CRAFT HARBOURS PROGRAM

Fisheries and Oceans Canada

The Small Craft Harbours (SCH) Program within Fisheries and Oceans Canada (DFO) provides commercial fishers and recreational boaters with safe and accessible facilities through the operation and maintenance of a national system of harbours. Keeping harbours that are critical to the fishing industry open and in good repair is the SCH's mandate. Its long-term objective is to retain a network of approximately 750 core, locally managed fishing harbours. It is expected that all non-essential harbours (i.e. recreational harbours and fishing harbours with low or no activity) will be divested.

Fishing Harbours

Since the late 1980s, the SCH program has supported the creation of local Harbour Authorities to manage the commercial fishing harbours in their communities. Harbour Authorities are typically local, not-for-profit organizations composed of fishers and other harbour users. They lease the harbour from SCH and provide services, maintenance and harbour management. As of

December 31, 2006, Harbour Authorities managed 687 core fishing harbours across Canada, about 92 per cent of the SCH program target. Fishing harbours not generating enough community interest to form harbour authorities are expected to be divested or, if necessary, demolished. Such harbours usually have low or no activity, and these divestitures have a negligible impact on the commercial fishing industry or the community at large. To date, 299 fishing harbours have been divested and 82 are in the final stages of divestiture.

Table 8-2 reports the fishing harbours remaining in the SCH portfolio as of December 31, 2006, by region and status.

TABLE 8-2: SCH FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF DECEMBER 31, 2006

	Harbour Authorities	Small Craft Harbours	Regional Total
Pacific ¹	78	69	147
Central and Arctic	53	17	70
Quebec	55	27	82
Maritimes and Gulf	283	38	321
Newfoundland and Labrador	276	100	376
Total²	745	251	996

1 Totals include 47 mooring buoy sites in British Columbia.

2 There are no harbour authorities in Northwest Territories, Nunavut or the Yukon.

Source: Small Craft Harbours, Department of Fisheries and Oceans

Recreational Harbours

The intention of the SCH program is to divest its entire inventory of recreational harbours. Since 1994/95, 662 (78 per cent) recreational harbours have been divested or are in the final stages of divestiture. The SCH disposal strategy, approved by Treasury Board in 1995, permits disposals at a consideration of \$1.00, subject to conditions. These conditions include a requirement to maintain public access for at least five years. Environmental assessments and reasonable repairs are completed before transfer to ensure that facilities are safe. Municipalities, local not-for-profit organizations, First Nations or other federal departments are the main recipients. In the absence of a public body interested in acquiring the facilities, they are offered at market value to the general public. As a last resort, if there is neither public nor private interest in the facilities, they are demolished. It is expected that the recreational harbour divestiture program will continue for several years.

Tables 8-3 to 8-5 summarize, by region, the status of the SCH recreational harbour divestiture program (Table 8-3), recipients of harbours divested (Table 8-4) and type of management of the remaining harbour sites in the SCH inventory (Table 8-5).

TABLE 8-3: SCH RECREATIONAL HARBOUR DIVESTITURES BY REGION AS OF DECEMBER 31, 2006

	Fully Divested 1995 – 2005	Fully Divested 2005/06	Final Stage of Divestiture	Total Divested	Remainder to be Divested	Regional Total
Pacific	54	0	4	58	7	65
Central and Arctic	282	14	4	300	145	445
Quebec	215	6	3	224	29	253
Maritimes and Gulf	79	0	0	79	1	80
Newfoundland and Labrador	1	0	0	1	1	2
National Totals	631	20	11	662	183	845

Source: Small Craft Harbours, Fisheries and Oceans Canada

TABLE 8-4: RECIPIENTS OF DIVESTED SCH RECREATIONAL HARBOURS AS OF DECEMBER 31, 2006

	Province	Municipality	Private Sector	Other ¹	Total by Region
Pacific	51	1	1	5	58
Central and Arctic	22	214	21	43	300
Quebec	3	192	2	27	224
Maritimes and Gulf	4	19	4	52	79
Newfoundland and Labrador	0	1	0	0	1
Total	80	427	28	127	662

1 Refers to sites that have been transferred to local not-for-profit organizations, First Nations or other federal departments, as appropriate.

Source: Small Craft Harbours, Fisheries and Oceans Canada

TABLE 8-5: MANAGEMENT OF REMAINING SCH RECREATIONAL HARBOURS AS OF DECEMBER 31, 2006

	Managed Under Lease	Small Craft Harbours	Other ¹	Total by Region
Pacific	1	0	6	7
Central and Arctic	99	36	10	145
Quebec	3	26	0	29
Maritimes and Gulf	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	103	64	16	183

1 Refers to a variety of management and non-management situations. Some infrastructure, such as shoreline reinforcement or breakwaters, are largely stable and do not require on-going management. Some facilities are part of a larger development (e.g. a marina) and managed as part of that development. In other cases, facilities no longer exist at the site.

Source: Small Craft Harbours, Fisheries and Oceans Canada

MARINE PILOTAGE

In Canada, regional pilotage authorities direct and control navigation and/or ship handling of vessels through coastal and inland waterways in a safe and efficient manner. There are four such pilotage authorities in Canada: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA). Each responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region.

The LPA, GLPA and PPA each experienced a surplus in 2006, resulting in a combined gain of about \$3 million for the four pilotage authorities. Table 8-6 shows the financial results for the four pilotage authorities in 2006.

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2006

(Thousands of dollars)

<i>Pilotage Authority</i>	<i>Revenues</i>	<i>Expenditures</i>	<i>Net income (loss)</i>
Atlantic Pilotage Authority (APA)	14,794	15,767	(735) ¹
Laurentian Pilotage Authority (LPA)	65,608	63,187	2,421
Great Lakes Pilotage Authority (GLPA)	18,447	18,126	321
Pacific Pilotage Authority (PPA)	49,264	48,232	1,032
Total Pilotage Authorities	148,113	145,312	2,801

¹ Extraordinary gain of \$238,000 due to the insurable loss of a Pilot vessel.

Source: Pilotage Authorities' 2006 draft annual reports

Using the average number of assignments per pilot as an indicator, overall, the efficiency of pilotage services in 2006 remains the same as that of 2005. The only exception was the APA, where the average number of assignments per pilot decreased in 2006. The variations between the authorities and from year to year are related to traffic levels. Assignments increased for the LPA and GLPA but decreased for the APA and PPA. Overall, there were slightly fewer assignments in 2006 than in 2005.

Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2006. For information on other years, see Table A8-8 in the Addendum.

TABLE 8-7: TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2006

<i>Pilotage Authority</i>	<i>Indicators</i>	<i>2006</i>
Atlantic (APA)	Pilots	55
	Total Assignments	10,041
	Assignments Per Pilot	183
Laurentian (LPA)	Pilots	175
	Total Assignments	22,247
	Assignments Per Pilot	133
Great Lakes (GLPA)	Pilots	61.5
	Total Assignments	6,931
	Assignments Per Pilot	113
Pacific (PPA)	Pilots	105
	Total Assignments	12,945
	Assignments Per Pilot	123
Total All Authorities	Pilots	396.5
	Total Assignments	53,164
	Assignments Per Pilot	135

Source: Pilotage Authorities' 2006 draft annual reports

CANADIAN COAST GUARD

The Canadian Coast Guard (CCG) is a Special Operating Agency within Fisheries and Oceans Canada (DFO). The CCG is a key national institution that allows Canada to exert influence over its waters and coasts. It delivers on public expectations of clean, safe, secure, healthy and productive waters and coastlines. It achieves this mission through nine services (program sub-activities), as follows.

Aids and Waterways Services supports approximately 17,000 short- and long-range aids and monitors the conditions of 75 commercial shipping channels. Key focuses of this service include delivering aids to navigation, waterways management, and marine safety information services to support marine safety, accessibility of waterways and environmental protection.

Marine Communications and Traffic Services monitors 450,000 vessel movements annually, provides marine distress/safety communications and coordination, conducts vessel screenings, regulates vessel traffic movement, and provides information systems and public correspondence on a 24/7 basis.

Icebreaking Services provides approximately 1,700 ice services each year. It provides icebreaking and related services (ice routing, harbour breakouts, route assistance, etc.) to facilitate the safe and expeditious movement of maritime traffic through and around ice-covered Canadian waters and to reduce the risk of flooding caused by ice jams on the St. Lawrence River.

Search and Rescue Services saves about 3,000 lives and assists in 2,000 maritime incidents each year. The primary goal of maritime SAR is to save lives at risk. The federal Search and Rescue system is led by the Canadian Minister of National Defence, who is responsible for ensuring a coordinated approach. The CCG provides and leads the maritime component of the federal Search and Rescue program, with the support of the Coast Guard Auxiliary.

Environmental Response Services responds to ship source pollution incidents and mystery oil spills. On average, it deals with over 1,200 reported incidents each year. As the lead federal agency for ship source spill response, the CCG delivers environmental incident preparedness and response services that protects the marine environment under Canadian jurisdiction and provides response assistance to other countries under international agreements. For North of 60°, the CCG is the sole response organization.

Maritime Security Services supports the Government of Canada's national security objectives by contributing to security on Canadian waterways. This service includes support to the federal enforcement and intelligence communities through Coast Guard fleet and national marine communications activities. The CCG works closely with the security community as a member of the Transport Canada-led Interdepartmental Marine Security Working Group.

Coast Guard College Services has as its mission to increase the safety and protection of the national and international maritime transportation systems and environments by developing, disseminating and administering maritime training, education and research programs on behalf of the Government of Canada. This service includes training junior officers for Coast Guard service by delivering high quality, up-to-date maritime training and services in a modern and progressive environment.

Fleet Services is responsible for managing, operating and maintaining the CCG Fleet (vessels and aircraft) for the delivery of civilian marine services in support of the Government of Canada's maritime priorities. This includes the above-mentioned CCG programs as well as support to Science, Oceans and Fisheries Management (Conservation and Protection).

Contribution to other Government Objectives delivers civilian marine services (expertise, personnel and infrastructure: vessels and aircraft) on behalf of other government departments or in support to agencies and organizations in the achievement of the Government of Canada's maritime priorities.

As a Special Operating Agency within DFO, the CCG delivers its programs and services through the federal government's civilian fleet and a broadly distributed shore infrastructure. This infrastructure includes marine communications and traffic services centres, major bases, multi-tasked lifeboat stations, rescue centres with Canadian Forces, and aids to navigation. It also includes hundreds of other assets, such as radio towers, throughout the country. In addition, the CCG manages and operates the Canadian Coast Guard College, in Sydney, Nova Scotia.

The Coast Guard is a recognized symbol of Canadian sovereignty and maritime excellence. It is instrumental in saving lives, facilitating maritime commerce, responding effectively to pollution incidents, protecting the aquatic environment and supporting maritime security. CCG responds to maritime emergencies and disasters both in Canada and internationally; for example, Hurricane Katrina in 2005.

The Coast Guard has identified three broad areas — Focus on Client Service, Focus on Efficiency and Effectiveness, and Focus on People — as key organization priorities.

FINANCIAL PROFILE

Table 8-8 shows the Coast Guard's financial results for the last four fiscal years. Results for 2006/07 reflect forecasted revenue and expenditures to fiscal year-end and will not be finalized until the end of the fiscal year.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND EXPENDITURES, 2003/04 – 2006/07

(Millions of dollars)

	2003/04	2004/05 ¹	2005/06 ²	2006/07 ³
Revenue	37.4	40.4	43.2	50.1
Gross Expenditures	504.5	543.3	550.6	565.5
Net Expenditure	467.1	502.9	507.4	515.4

1 2003/2004 figures do not include the Coast Guard College. 2004/2005 figures include amounts related to the Coast Guard College, which was transferred to the Coast Guard as of April 1, 2004.

2 All gross and net expenditures reported do not include the Program Enablers' allocation. Refer to Table 8-9 for a breakdown of the Coast Guard's Revenues and Gross Expenditures by sub-activity.

Source: Fisheries and Oceans Canada

In June 1996, the CCG introduced the Marine Navigation Services Fee, which was targeted to collect \$27.7 million annually, including administrative costs.

In 1998, the CCG introduced a transit-based Icebreaking Services Fee, which was targeted to collect \$13.8 million annually, including administrative costs.

TABLE 8-9: CANADIAN COAST GUARD PLANNED REVENUES AND EXPENDITURES, 2006/07

(Millions of dollars)

	<i>AWS</i>	<i>MCTS</i>	<i>ICE</i>	<i>SAR</i>	<i>ER</i>	<i>College</i>	<i>Fleet</i>	<i>Maritime Security</i>	<i>Total</i>
Revenues	32.3	0.1	13.8	0.2	0	3.7	0	0	50.1
Gross Expenditures ¹	145.0	89.0	55.6	95.9	10.5	8.3	148.7	12.5	565.5
Net Planned Spending¹	112.7	88.9	41.8	95.7	10.5	4.6	148.7	12.5	515.4

Note: AWS: Aids and Waterways Services; MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; SAR: Search and Rescue Services; ER: Environmental Response Services; Fleet: Fleet Management Services.

1 The gross expenditures and net planned spending reported do not include the Program Enablers' allocation.

Source: Fisheries and Oceans Canada

The Maintenance Dredging Services Tonnage Fee, established in September 1997, was originally intended as an interim measure to cover the full costs that the CCG incurred in providing maintenance dredging services in the St. Lawrence Ship Channel.

The Coast Guard continues to work with representatives from the commercial marine transportation industry to arrive at a long-term arrangement on these revenues.

Table 8-9 breaks down the Coast Guard's revenues and expenditures by its seven main sub-activities for fiscal year 2006/07. Both revenues and expenditures are forecasts only and will not be finalized until the end of the fiscal year.

ST. LAWRENCE SEAWAY

Cutting to the industrial heartland of North America, the St. Lawrence Seaway is a unique inland waterway, serving 15 major international ports and some 50 regional ports on both sides of the Canada–United States border.

The Seaway consists of two sections. The 300-kilometre Montreal–Lake Ontario (MLO) section runs from Montreal to Lake Ontario and has five locks in Canada and two in the United States. The 42-kilometre Welland Canal joins Lake Ontario to Lake Erie and has eight locks, all in Canada. Combined, the two sections gradually raise vessels 183.2 metres above sea level, the height of a 60-storey building. The locks and channels of the Seaway accommodate vessels up to 225.5 metres long, 23.8 metres wide and eight metres in draft.

The St. Lawrence Seaway Management Corporation (SLSMC) manages, operates and maintains the navigational aspects of the Canadian portion of the Seaway. A not-for-profit corporation, the SLSMC was established by Seaway users and other interested parties. It assumed management of the Canadian Seaway on October 1, 1998, under a long-term agreement with the federal government pursuant to the *Canada Marine Act*. The SLSMC charges tolls and

generates other revenues to finance the operation and maintenance of the Seaway. When required, it also receives additional funds from the federal government to eliminate operating deficits.

In 2006, the Seaway handled an estimated 47.1 million tonnes, up 8.8 per cent over 2005. Grain ranked first among commodity shipments, with 11.5 million tonnes, up 17.6 per cent. Shipments of iron ore and coal were 11.0 and 3.7 million tonnes, respectively, both commodities up slightly over 2005. Overall, the Seaway experienced strong performance within its traditional bulk and general cargoes, which were complemented by a series of new cargoes, including shipments of aluminum ingots, and wind turbine parts. Table 8-10 shows cargo movements for 2005 and 2006 while Table 8-11 shows traffic by commodity for the same years. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

TABLE 8-10: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2005 AND 2006

(Thousands of tonnes)

<i>Year</i>	<i>Montreal–Lake Ontario Section</i>	<i>Welland Canal Section</i>
2005	31,273	34,150
2006 ¹	35,546	37,633

1 Figures are estimated as of December 31, 2006.

Source: St. Lawrence Seaway Management Corporation

TABLE 8-11: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2005 AND 2006

(Thousands of tonnes)

<i>Year</i>	<i>Grain</i>	<i>Iron Ore</i>	<i>General Cargo</i>	<i>Coal</i>	<i>Other</i>	<i>Total</i>
2005	9,773	11,010	3,259	3,693	15,566	43,301
2006 ¹	11,490	11,025	4,620	3,701	16,282	47,118

Note: Combined traffic in the two sections of the Seaway.

1 Figures are estimated as of December 31, 2006.

Source: St. Lawrence Seaway Management Corporation

RATES AND TARIFFS

The SLSMC implemented a two per cent cargo toll and ship charge increase for the 2006 navigation season in both sections of the Canadian Seaway. This increase is in accordance with the management agreement between the SLSMC and the federal government, which stipulates annual tariff increases based on the lesser of the annual average percentage change in the Consumer Price Index or two per cent.

FINANCIAL PROFILE

In fiscal year 2005/06,¹ the Seaway generated \$76 million in revenues from tolls and other sources, up from \$74 million in 2004/05. Seaway operating expenses were \$60.4 million, up slightly from \$60.2 million. These expenses are related to the management and operation of the Seaway infrastructure, with salaries, wages and benefits accounting for most of this total. Expenditures for the asset renewal program — representing the cost of maintenance and major repairs of locks, canals, bridges, buildings and other infrastructure assets — increased from \$32.1 million to \$33.1 million.

Table 8-12 shows the financial performance of the St. Lawrence Seaway from 2003/04 to 2005/06.

TABLE 8-12: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 2003/04 TO 2005/06

(Thousands of dollars)

Year ¹	Revenues	Expenditures	Excess of Revenues Over Expenses	Net Excess of Revenues Over Expenses ²
2003/04	66,555	86,247	(19,692)	(3,087)
2004/05	74,005	98,439	(24,434)	(1,737)
2005/06	76,044	95,455	(19,411)	3,346

1 April 1 to March 31.

2 Following contribution from Capital Trust Fund.

Source: St. Lawrence Seaway Management Corporation

INDUSTRY STRUCTURE

Part of Canada's marine industry includes a fleet of Canadian-flag operators providing domestic and transborder shipping services. International trade is served largely by foreign-flag operators calling at Canada's major ports.

DOMESTIC SERVICES

Canada's merchant fleet is made up of self-propelled vessels of at least 1,000 gross tons² flying the Canadian flag. It carries the majority of domestic shipments of bulk materials on the Great Lakes and along Canada's coastline. By the end of 2006, the fleet included 182 vessels and 2.2 million gross tons.

The dry bulk fleet includes straight-deck bulkers dedicated mainly to grain transportation and self-unloading vessels carrying various bulk commodities. In 2006, this fleet was made up of 62 vessels. Though these carriers are declining in number, they remain the backbone of the Canadian merchant fleet. In 2006, they accounted for 51 per cent of tonnage and 34 per cent of vessels. Tankers, on the other hand, increased their capacity share from 11 to 24 per cent of total gross tonnage despite a decrease in the number of tankers from 35 in 1986 to 24 in 2006. This increase in capacity share was due to the addition of larger units. In last 20 years, the capacity of ferries vessels has also increased, from 12 to 19 per cent of total gross tonnage.

An extensive fleet of tugs and barges was also in operation both domestically and internationally. In 2006, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 309 tugs (122,000 gross tons) and 836 barges and scows (905,000 gross tons). Approximately eight per cent of the tug population had tonnage greater than 1,000 gross tons and were used in offshore supply.

Table 8-13 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1986, 1996 and 2006.

TABLE 8-13: CANADIAN-REGISTERED FLEET BY TYPE, 1986, 1996 AND 2006

Type of carrier	Gross tons (Thousands of tons)			Number of vessels		
	1986	1996	2006	1986	1996	2006
Dry bulk	1,694	1,289	1,109	102	72	62
Tankers	266	159	520	35	21	24
General cargo	74	131	108	19	16	18
Ferries	269	345	408	54	60	72
Other	32	34	38	7	7	6
Total	2,334	1,958	2,183	217	176	182

Note: Self-propelled vessels of 1,000 gross tons and over, including government-owned ferries but excluding tugs used in offshore supply.

Source: Canadian Transportation Agency and Transport Canada

1 Tolls in fiscal year 2005/06 are for traffic in the 2005 navigation season.

2 Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as deadweight tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

EASTERN CANADA

In eastern Canada and including the Arctic, freight services are provided by a fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels. The three largest operators in the Great Lakes–St. Lawrence region are Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines. Seaway Marine Transport, a partnership of Algoma Central Corporation and Upper Lakes Group, manages the largest fleet of self-unloading vessels and gearless bulk carriers on the Great Lakes, St. Lawrence River and waters of eastern Canada.

WESTERN CANADA

Freight services on the west coast are provided in large part by an extensive tug and barge fleet operated by a few well established companies that serve the forest products and construction industries. While most operators are involved primarily in domestic trade, some also trade between Canadian and U.S. ports. Washington Marine Group controls several of the largest tug and barge operations, including Seaspan International Ltd. Smit Marine Canada (formerly Rivtow Marine Inc.) is the second ranked tugboat company in British Columbia. To a lesser degree, freight services in the region are supplied by freight ferries and general cargo vessels.

NORTHERN CANADA

In the western Arctic, Northern Transportation Company Limited (NTCL) is the main marine operator for the Mackenzie River Watershed (including the Mackenzie River and Great Slave Lake), the Arctic coast and islands, and Alaska. Utilizing a fleet of tugs and dual-purpose barges, NTCL's principal concerns are bulk petroleum products and dry cargo for communities, defence installations, and oil and gas exploration sites across the North.

In the eastern Arctic, Nunavut Sealink and Supply Inc. (NSSI), Nunavut Eastern Arctic Shipping (NEAS), and NTCL provided sealift service for the Arctic re-supply of dry cargo in the Nunavut regions with services from Churchill and Montreal. While NSSI and NEAS utilized general cargo and roll-on roll-off vessels, NTCL operated tug and barge combinations. Also with services out of Churchill and Montreal, the Woodward Group delivered bulk fuel to the Nunavut region using tankers.

INTERNATIONAL SERVICES

Marine freight transport at the international level includes bulk shipping and liner shipping. Bulk shipping is the transport of large volumes of homogeneous cargo, often in shiploads. Liner shipping, on the other hand, is the transport of many individual consignments of cargo, often at fixed prices for each commodity, on ships that operate regularly among ports of call on a scheduled basis.

Bulk services are provided under time charters (short-term and long-term contracts) and short-term "spot" or "tramp" contracts, generally for a specified number of voyages or days, or for a given quantity of cargo. The bulk shipping industry operates in a competitive market. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flag ships. Canadian bulk cargoes include such commodities as coal, iron ore, grain, potash and crude petroleum.

Liner shipping is dominated by large fleets of specialized container vessels operating on major trade routes around the world. The containers are often standardized so that they can be easily transferred to trains or trucks for transport away from the port.

Shipping lines that call at Canadian ports provide liner services either independently or as members of shipping conferences that adhere to rates and/or conditions of service under a conference agreement. These practices are exempt from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA), which was amended in 2002.

Competition in the international shipping industry is increased by independent shipping lines (also called non-conference carriers) that offer rates and services comparable with those of conference operators. Shipping lines sometimes choose to be a conference member on certain routes and an independent operator on others.

Most of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews.

SERVICES AVAILABLE TO CANADIAN SHIPPERS

In 2006, the Canadian Transportation Agency had 13 active shipping conference agreements on file. Conferences are no longer required to file their tariffs with the Agency.

Table 8-14 lists the 13 conference agreements on file with the Canadian Transportation Agency.

TABLE 8-14: SHIPPING CONFERENCES SERVING CANADA IN 2006

Canadian Continental Eastbound Freight Conference (E)
Canada–United Kingdom Freight Conference (E)
Continental Canadian Westbound Freight Conference (E)
Australia–Canada Container Line Association (E & W)
Mediterranean Canadian Freight Conference (E)
Canada Pacific West Coast South America Agreement (W)
Australia–Canada Discussion Agreement (E & W)
Canada Transpacific Stabilization Agreement (E & W)
Canada/Australia–New Zealand Discussion Agreement (E & W)
Canada North Atlantic Westbound Freight Conference (E)
Canada Westbound Transpacific Stabilization Agreement (E)
Canadian Pacific/Latin American Freight Service (W)
AMPAC Cooperative Working Agreement (formerly Columbus/Maruba Working Agreement) (W)

Notes: E = East Coast; W = West Coast

Source: Canadian Transportation Agency

Independent action provisions under the SCEA enable shippers to benefit from competition between conference and non-conference carriers as well as from competition within conferences. These provisions allow individual conference members to offer rates or services that differ from those in the conference agreement. And, with the 2002 SCEA amendments, a conference member now has to give only five, rather than 15 days' advance notice to other conference members if it intends to take independent action.

Under the 2002 SCEA amendments, shippers could use two types of confidential service contracts. The first is a contract between the shipper and a conference member where the terms and conditions are not disclosed to other conference members or filed with the Canadian Transportation Agency. These individual service contracts are comparable to the individual, confidential service contracts a shipper may negotiate with an independent or non-conference liner shipping operator. The second type is a contract between the shipper and the conference for a conference-wide service contract that, while also confidential, must be filed with the Canadian Transportation Agency in order to comply with the SCEA.

In 2006, the liner shipping conferences filed two conference-wide service contracts with the Canadian Transportation Agency,³ down from five in 2005, 15 in 2004 and 25 in 2003. This decline in conference-wide service contracts should not be interpreted as a decline in the overall importance of service contracts in liner shipping. Most liner shipping cargo is reportedly carried under individual service contracts negotiated between shippers and shipping lines that do not need to be filed with the Canadian Transportation Agency.

PASSENGER TRANSPORTATION

FERRY SERVICES

Most major ferry operators in Canada belong to the Canadian Ferry Operators Association (CFOA); however, there are wide differences in ownership, services and vessel type. Ownership ranges from small, private operators to provincial governments and federal Crown corporations. Terminals and docking facilities are owned, leased and operated by ferry companies, municipalities, private companies and federal and provincial governments. Vessel types range from small cable ferries to large cruise-type vessels and fast ferries. Operations range from seasonal to year-round service.

Table A8-11 in the Addendum provides details on the major ferry services. Most major ferry services also have their own Web sites with information on routes and rates.

An estimated 38.7 million passengers and 16.5 million vehicles used Canadian ferry services in 2005. These 2005 traffic figures for all CFOA members (2006 figures not yet available) give a good indication of the relative size of CFOA operations. British Columbia Ferry Services Inc. is by far Canada's largest operator. It carried more than 21.7 million passengers and 8.5 million vehicles in 2005. British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation, also operating inland ferry services, carried another 6.7 million passengers and 3.2 million vehicles. In Quebec, La Société des Traversiers du Québec carried 5.2 million passengers and 2.7 million automobile equivalent units (AEU).

3 Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

In Atlantic Canada, federally supported ferry services are now limited to those provided by Marine Atlantic Inc., a federal Crown corporation, and by Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée, which are private-sector operators. On the west coast, the federal government provides an annual grant to British Columbia that is directed to BC Ferries.

In 2005, Marine Atlantic Inc. carried 418,105 passengers and 224,356 vehicles between Newfoundland and Labrador and Nova Scotia. Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée carried 518,457 passengers and 217,081 vehicles. The remaining CFOA members, including provincial operators in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately 4.7 million passengers and 2.0 million vehicle crossings.

CRUISE SHIP INDUSTRY

Large cruise vessels calling at Canada's ports are owned by foreign-based companies. Sailing under foreign flags, these vessels offer two basic types of extended cruises: the luxury cruise and the "pocket" cruise, which typically carries fewer than 150 passengers.

After the Caribbean and the Mediterranean, Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world. Vancouver and, increasingly, Seattle serve as "home ports" for passengers to embark and disembark. In 2006, Vancouver's share of this traffic decreased by 7.9 per cent to 837,823 passengers. This was mainly because the Port of Seattle was able to attract cruise ships by opening new facilities (7.1 per cent more passengers in 2006) and because world events negatively affected travel and tourism.

In eastern Canada, luxury cruise vessels regularly travel up the eastern seaboard from New York to call in at Halifax, Charlottetown and other east coast ports before entering the St. Lawrence River to stop at Quebec City and Montreal. Shorter cruises also sail out of New York or Boston for Halifax, Saint John and other Atlantic ports. Many ports, including Saint John, have been investing in new facilities to serve cruise passengers.

Other Canadian ports, including Victoria, St. John's and Sydney, also benefit from calls by cruise lines.

Table 8-15 shows international cruise ship traffic at major Canadian ports in 2005 and 2006. Addendum Table A8-12 gives a longer time series.

TABLE 8-15: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2005 AND 2006

(Passengers)

Year	Vancouver	Montreal	Quebec City	Halifax	Saint John
2005	910,172	35,359	66,000	188,678	90,200
2006 (prel.)	837,823	40,565	91,000	169,824	88,000

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

At the time of publication of this report, 2005 data on marine origin–destination traffic was not available from Statistics Canada. Therefore, some of the tables in this section could not be updated with 2005 traffic data. Where feasible, Transport Canada has estimated traffic based on data published on the Web sites of the various Canadian Port Authorities (CPAs).

The CPA's domestic and international traffic data for 19 ports were also used to estimate marine freight traffic handled at all the Canadian ports in 2005. In addition, historical transborder, and overseas traffic data were correlated to the international marine trade data (on a value basis) in order to estimate the 2005 traffic flows for each sector. Finally, total traffic handled as well as flows were correlated with Canada gross domestic product at basic prices (in 1997 dollars).

In 2005, there was an estimated 395 million tonnes⁴ of marine freight traffic, up 2.9 per cent from 2004. At 69.5 million tonnes, estimated domestic flows⁵ accounted for more than one fifth of this, up 0.9 per cent from the 68.9 million tonnes in 2004. Canadian-flag vessels carried an estimated 97.3 per cent (67.6 million tonnes) of domestic flows. Estimated Canada–U.S. traffic in 2005 totalled 127.4 million tonnes, up 3.3 per cent, while "Other" international (deep-sea or overseas) traffic⁶ increased by an estimated 3.4 per cent to 198 million tonnes.

4 Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double counted).

5 Maritime traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, the volumes get counted twice.

6 "Other" international traffic includes shipments to and from foreign countries other than the United States.

Table 8-16 shows Canada's marine traffic statistics by sector from 2003 to 2005. Addendum Table A8-13 covers the same information from 1987 to 2005.

TABLE 8-16: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2003 – 2005

(Millions of tonnes)

	Flows			Total Flows	Total Handled
	Domestic	Transborder	Overseas		
2003	68.3	123.5	183.2	374.9	443.0
2004	68.9	123.3	191.3	383.4	452.3
2005 (Est.)	69.5	127.4	197.8	394.7	464.2

Note: Totals may not add up due to rounding.

Source: Statistics Canada, *Shipping in Canada*, Cat. 54-205
CPA ports Web sites & Transport Canada traffic estimates for 2005

Table 8-17 compares the domestic and international CPA port traffic in 2004 with that of 2005, as well as the 2005 estimated traffic handled at all 19 Canadian ports. These ports handled 250 million tonnes of marine cargo in 2005, more than half the Canadian total. The rest of Canadian marine cargo, 215 million tonnes, was handled by an equally important regional port system consisting of more than 200 ports located from the Atlantic to the Pacific to the Arctic.

DOMESTIC MARINE FREIGHT TRAFFIC

COASTING TRADE ACTIVITY FOR 2006

Under Canada's *Coasting Trade Act*, only Canadian-registered, duty-paid ships may transport passengers and cargoes and conduct commercial marine-related

activities in Canadian waters. In addition, only Canadian-registered, duty-paid ships may be involved in the exploration and exploitation of non-living natural resources on Canada's continental shelf. If, however, no Canadian ship is available or capable of providing a particular service, foreign-registered ships may apply to the Canada Border Services Agency (CBSA) for a licence to enter Canada's coasting trade.

In 2006, the CBSA issued 95 applications for a coasting trade licence, marginally down from 101 applications in 2005. Of these, 60 were for the carriage of goods, 23 were for a commercial activity and 12 were for the transportation of passengers.

A total of 18 licences were issued to Canadian non-duty paid vessels. Norwegian vessels were the most predominant foreign-flag vessels involved in Canada's coasting trade, having been issued 16 licences. U.S. vessels were the next most frequent, with 12 licences, followed by the Marshall Islands and Liberia, with six licences each.

Again in 2006, the highest percentage of activity continued to be for vessels associated with the oil and gas exploration and production industry. There were 55 tanker requests, 12 for drill ships, rigs and support vessels, and five for seismic vessels. Much of the tanker traffic relates to the requirement for large-capacity shuttle tankers. Table A8-14 in the Addendum shows the share of tonnage carried by foreign-flag ships in the Canadian Coasting Trade.

TABLE 8-17: CANADA'S MARINE DOMESTIC & INTERNATIONAL TRAFFIC HANDLED AT CPAs AND OTHER PORTS, 2004 – 2005

Port	Millions of tonnes 2004	Port per cent share	Millions of tonnes 2005	Port per cent share	Difference per cent (2005 vs. 2004)
Vancouver	73.6	16.3	76.5	16.5	4.0
Saint John	26.3	5.8	27.5	5.9	4.8
Sept-Îles/Pointe-Noire	17.5	3.9	22.4	4.8	28.0
Montréal/Contrecoeur	23.6	5.2	24.3	5.2	3.0
Québec/Lévis	21.8	4.8	22.7	4.9	3.9
Halifax	13.8	3.1	13.7	2.9	(1.1)
Fraser River ¹	14.9	3.3	15.9	3.4	7.3
Hamilton	12.0	2.7	12.4	2.7	2.9
Thunder Bay	8.5	1.9	8.2	1.8	(4.1)
North Arm Fraser River ¹	4.6	1.0	4.2	0.9	(7.8)
Windsor Ontario	5.3	1.2	5.5	1.2	3.8
Prince Rupert	4.4	1.0	4.4	0.9	0.4
Belledune	2.2	0.5	2.2	0.5	2.5
Nanaimo	2.0	0.4	1.9	0.4	(2.9)
Trois-Rivières	2.3	0.5	2.5	0.5	8.4
Toronto	1.9	0.4	2.4	0.5	26.8
St. John's	1.6	0.4	1.4	0.3	(12.1)
Chicoutimi (Port Sagueny)	0.4	0.1	0.3	0.1	(20.5)
Port Alberni	1.0	0.2	1.0	0.2	(1.6)
Total CPA Ports	237.7	52.6	249.6	53.8	5.0
Other Ports²	214.6	47.4	214.6	46.2	0.0
Total Handled All Ports²	452.3	100.0	464.2	100.0	2.6

Note: Totals may not add up due to rounding.

¹ Due to double countings in domestic traffic for Fraser River and North Fraser River ports, use Statistics Canada data for 2004.

² Estimated 2005 total traffic (464.2 million) based on historical data and market shares of the CPA ports.

Source: CPA ports Web sites data

INTERNATIONAL MARINE FREIGHT TRAFFIC

CONFERENCE/NON-CONFERENCE MARKET SHARES

Non-conference traffic continues to grow both in absolute terms and as a percentage of total liner traffic. In 2004 (most recent statistics), non-conference lines handled 28.1 million tonnes of cargo while conference traffic fell to 8.1 million tonnes. This means that non-conference operators moved almost 80 per cent of total liner traffic. Non-conference share of liner traffic becomes even more dominant when non-conference U.S. origin/destination transshipped traffic is considered.⁷

The increase in non-conference traffic is due to a combination of independent lines that are establishing new services to Canada and established lines that have withdrawn from conferences.

Table 8-18 compares the conference and non-conference shares of Canadian liner trade in 2003 and 2004. Addendum Table A8-15 shows the same data from 1995. Note that the traffic reported for the conferences includes cargo carried under confidential service contracts that would not be subject to conference tariffs.

In terms of type of cargo, conference operators have been concentrating almost exclusively on containerized traffic in recent years. The year 2004 was no exception, as 98 per cent (8.0 million of 8.1 million tonnes) of cargo was carried in containers. Non-conference operators are also carrying more cargo in containers (22.8 million tonnes in 2004), although this includes general cargo and neo-bulk traffic as well.

Breaking down liner traffic by foreign region of origin/destination shows the relative shares of conference and non-conference operators on different routes. Table 8-19 compares conference and non-conference liner traffic by region for 2004.

MARINE TRADE

According to international trade data, Canadian international marine trade in 2005 increased 10.4 per cent to \$130.0 billion (excluding shipments via U.S. ports). Marine exports totalled \$60.5 billion, while marine imports totalled \$69.4 billion.

Table 8-20 shows the value of marine exports/imports by country of origin/destination in 2005.

The value of exports increased by 11.8 per cent, mainly to the United States, Japan, China and the United Kingdom. Petroleum products and crude oil were the main commodities exported to the United States, while forest products, grains and other food products were the main commodities exported to Japan and China.

The value of imports also increased, by 9.6 per cent, notably with increased cargos from China, Japan, Germany, Norway and South Korea. The main commodities imported from China were textiles, leathers and end products; furniture, major appliances and household equipment; and machinery and electronic equipment.

TABLE 8-18: CONFERENCE/NON-CONFERENCE SHARES OF CANADIAN LINER TRADE, 2003 – 2004

	(Millions of tonnes)	
	2003	2004
Conference		
Exports	3.4	2.5
Imports	6.4	5.6
Total	9.8	8.1
Non-conference		
Exports	14.9	18.1
Imports	7.3	10.0
Total	22.2	28.1

Source: Transport Canada, International Database; Statistics Canada

TABLE 8-19: LINER TRAFFIC BY REGION, 2004

Region	Liner Imports		Liner Exports		Total
	Conference	Non-conference	Conference	Non-conference	
		conference		conference	
Europe	2.9	4.2	2.3	3.8	13.2
Asia	2.7	4.4	—	12.0	19.1
Central America	—	0.2	0.0	0.8	1.0
South America	—	0.1	0.1	0.4	0.6
Other America	—	0.4	—	0.5	0.9
Middle East	0.0	0.2	0.0	0.3	0.5
Oceania	0.0	0.1	0.1	0.2	0.4
Africa	—	0.4	—	0.1	0.5
Total	5.6	10.0	2.5	18.1	36.2

Note: — means Nil; Other America = North America plus Greenland and Saint Pierre and Miquelon.

Source: Transport Canada, International Database; Statistics Canada

⁷ It is important to note that the data in the tables are not adjusted for U.S. transshipments moving through Canadian ports. Much of this traffic moves on conference vessels but at non-conference rates. The route most likely affected by these transshipments is the one between Europe and Canada. Montreal estimates that approximately 50 per cent of its liner traffic originates in or is destined for the United States. Halifax and Vancouver are also handling growing amounts of U.S. Midwest traffic. This would, of course, overstate the share of conference traffic.

TABLE 8-20: TOTAL MARINE IMPORTS/EXPORTS BY COUNTRY (2005 VS 2004)

(Billions of dollars)

Country of Export	Exports ¹		Percentage change	Country of Import	Imports		Percentage change
	2004	2005			2004	2005	
United States	13.6	17.3	27.2	China, Peoples Republic	10.7	12.8	19.6
Japan	7.4	7.8	5.0	Japan	5.5	5.6	1.1
China, Peoples Republic	5.9	6.1	3.1	Germany	4.5	4.9	10.6
United Kingdom	2.8	2.9	2.9	Norway	3.9	4.7	19.4
Korea, South	1.8	2.3	23.8	Korea, South	3.4	2.9	(14.6)
Germany	1.7	2.1	22.6	Algeria	2.5	2.8	13.4
Netherlands	1.3	1.5	9.6	United Kingdom	2.9	2.8	(3.5)
Norway	1.5	1.3	(8.0)	United States	2.7	2.4	(9.7)
Italy	1.2	1.4	14.8	Italy	1.9	2.0	7.0
France	1.3	1.3	2.3	Saudi Arabia	1.2	1.7	39.3
Belgium	1.2	1.1	(11.0)	France	1.7	1.6	(3.7)
Taiwan	1.0	1.1	3.1	Venezuela	0.9	1.2	30.0
Mexico	0.7	0.8	1.4	Iraq	1.1	1.2	9.5
Hong Kong	0.8	0.7	(10.1)	Taiwan	1.1	1.2	5.4
India	0.6	0.8	27.8	Belgium	0.8	1.1	42.0
Spain	0.8	0.7	(14.7)	Australia	1.1	1.1	(3.9)
Brazil	0.6	0.7	18.8	Chile	0.8	1.0	23.1
Australia	0.6	0.7	11.2	Brazil	0.9	1.0	13.3
Other Countries	9.3	10.2	10.1	Other Countries	15.8	17.5	10.4
Grand Total (Exports)	54.1	60.5	11.8	Grand Total (Imports)	63.4	69.4	9.6

Note: Totals may not add up due to rounding.

¹ Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

Table 8-21 shows the value of the marine share of Canada's international trade in 2005.

TABLE 8-21: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2005

(Billions of Canadian dollars)

	Marine	All Modes	Marine (per cent)
Transborder			
Exports ¹	17.26	365.44	4.7
Imports	2.43	214.61	1.1
Total U.S.	19.69	580.04	3.4
Other countries			
Exports ¹	43.28	70.22	61.6
Imports	67.01	164.30	40.8
Total	110.29	234.52	47.0

Note: Table may not add up due to rounding.

¹ Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

While Canada's marine trade with the United States in 2005 totalled \$19.7 billion, including exports of \$17.3 billion, this represented only 3.4 per cent of total Canada-U.S. trade. Most traffic was handled by surface transport modes, such as trucking and rail.

Canada's marine trade with overseas countries (excluding the United States) totalled \$110.3 billion in 2005. This included \$43.3 billion in exports and \$67.0 billion in imports. Marine transport accounted for 47 per cent of all overseas trade by value and was the dominant mode for shipping overseas freight.

Canada's major areas of marine exports/imports are Asia, Western Europe and the United States. Canada's main exports in 2005 (including to the United States) were gasoline/fuel oils (\$9.7 billion), forest products (\$8.0 billion) and other food products (\$5.2 billion). Imports consisted of crude petroleum (\$12.9 billion), textiles, leathers and end products (\$9.4 billion), machinery (\$6.2 billion), automobiles (\$6.0 billion), gasoline/fuel oils (\$3.9 billion) and other food products (\$3.2 billion). For more information on the value and volumes of Canada's maritime trade with the United States and other countries, see tables A8-16 and A8-17 in the Addendum. For a breakdown of principal commodities exported and imported by value, see Addendum Table A8-18.

During 2006, the price of fuel was a concern. Canjet ended all its scheduled air services, while Porter Airlines started operations in the highly contested Toronto–Ottawa–Montreal market. Competition continued to flourish despite the fact that only two air carriers were providing a network of domestic air services at year-end.

MAJOR EVENTS IN 2006

GOVERNMENT

The Government of Canada undertook a number of initiatives in 2006, including proposed new and amended legislation; the negotiation of several international (bilateral) air transportation agreements; a new international air transportation policy; improvements to airport infrastructure; and air travel safety and security measures.

LEGISLATION

Three pieces of legislation were introduced in 2006. Bill C-6 was proposed to amend the *Aeronautics Act* to increase the penalties that could be imposed under that Act, allow certain regulatory infractions to be confidentially reported on a voluntary basis, and permit the Canadian Forces Airworthiness Investigative Authority to carry out flight safety investigations. Bill C-11 was introduced to amend the *Canada Transportation Act*. Air provisions would enable the Canadian Transportation Agency to ensure that advertised prices for air services include sufficient information to allow a consumer to readily identify the cost of an advertised airfare. It would also integrate the complaints function of the Air Travel Complaints Commissioner into the everyday operations of the Agency. A proposed *Canada Airports Act* was introduced as Bill C-20, which would provide an accountability framework for Canada's largest airports, as well as a modern corporate governance regime for the airport authorities. Bill C-47 was introduced following recommendations from the Standing Committee on Official Languages to change the *Air Canada Public Participation Act* to ensure that official languages obligations continue to apply to Air Canada and its various affiliates as they existed prior to restructuring. Bill C-4,

known as the *International Interests in Mobile Equipment (aircraft equipment) Act*, which had been introduced in 2005, received Royal Assent during 2006 but by year-end had yet to be fully implemented. The legislation facilitates and encourages international financing using the value of aircraft equipment as the security for payment.

INTERNATIONAL AIR POLICY

In November, the federal government announced a new international air policy, a "Blue Sky" policy, emphasizing the negotiation of open skies-type international air transportation agreements, when in Canada's interests. Open skies agreements remove restrictions in terms of pricing, frequency of service, capacity, destinations served, code-sharing, services to and from third countries and stand-alone cargo services. The Blue Sky policy reflects the evolving nature of the global aviation market and follows on the success of Canada's negotiation earlier in 2006 of an open-skies type agreement with the United Kingdom. Canada also negotiated a number of other international (bilateral) air transportation agreements, including those with Portugal, Algeria, Croatia and Serbia. At year-end, Canada was party to 70 international (bilateral) air transportation agreements.

In 2006, as a complement to the Blue Sky Policy, the international air cargo transshipment program was extended to all Canadian airports subject to application requirements and approvals. The program was previously intended to promote the use of small and under-utilized airports. In 2006, Edmonton International Airport was approved as a transshipment airport. The program allows air carriers to transship international cargo or combine cargo transshipments with other services for which they are licensed through Canada to third countries. Similar transshipment programs were previously introduced at Mirabel (1982), Hamilton (1987), Windsor (1993), Gander (2000) and Winnipeg (2004).

SMALL AIRPORTS VIABILITY

In September 2004, the Council of Transport Ministers agreed that the viability of small airports is a shared responsibility. A federal-provincial-territorial task group was subsequently created to define the mission of small airports and to identify options for future actions. The Air Issues Task Force presented its final report to the Council of Ministers Responsible for Transportation and Highway Safety in September 2006, and the report is now posted on the Council of Ministers Web site at www.comt.ca.

The report lays out the Task Force's findings regarding the missions and roles of small airports in Canada and recognizes that a "one size fits all" solution does not exist. The Task Force indicates that the viability of small airports is linked to a number of factors, including the distance to other airports and transportation alternatives. The Task Force members further note that local jurisdictions are best placed to support a local airport if it represents a community asset and priority.

Safety

In terms of safety, the Canadian Aviation Regulations (CARs) were changed to require airports to assess the risk of wildlife strikes based on their individual situations. As well, an Implementation Procedures for Licencing (IPL) Agreement between Canada and the United States came into effect in December. This agreement permits pilots holding certain licences or certificates from either country to obtain a licence or certificate from the other country if certain requirements are met. It also enhances safety through standards in pilot competence. The IPL agreement was the result of extensive cooperative work between Transport Canada and the U.S. Federal Aviation Administration that evaluated and compared each other's pilot licensing standards and procedures with a view to compliance with standards in the respective countries.

Security

In terms of security, changes to the CARs were proposed to support the implementation by Transport Canada and the Canadian Air Transport Security Authority of a new biometric-based Restricted Area Identity Card, which is issued to personnel working in the restricted access areas of the country's airports. Details and draft regulations were also announced relating to Canada's air passenger assessment program, known as "Passenger Protect." Under this program, action would be taken to prevent persons who pose an immediate threat to aviation security from boarding a commercial aircraft and would include the creation of a list of persons who

may pose an immediate threat to aviation security should they attempt to board a flight. Security measures were also put into effect that limit liquids, gels and aerosols in a passenger's carry-on baggage. The federal government also contributed funding to the International Civil Aviation Organization's Security Awareness Training Program.

INDUSTRY

In 2006, Canada's air carriers undertook initiatives to overcome cost and revenue challenges. The price of fuel continued to be a key cost challenge for air carriers. The world price for crude oil reached a high of US\$78 midway through the year and was overall high in historical terms, despite a receding at year-end. The impact was significant, as it made fuel the largest single operating cost element for Air Canada, ahead of labour costs. For a carrier like Air Canada, every increase in the price of crude oil of one US dollar reduced its operating income by US\$28 million. To mitigate the impact of fuel price increases, air carriers engaged to various extents in a fuel price hedging strategy to try to negotiate contracts for future fuel prices with more certainty. The appreciation of the Canadian dollar vis-à-vis the US dollar helped to mitigate the impact of the fuel cost increases, as the price of fuel is set in US dollars. Carriers also faced other cost challenges, such as increases in landing fees at airports, particularly at Toronto's Lester B. Pearson International Airport, Canada's busiest airport.

In a year where cost control was a concern, it was a challenge for Canada's air carriers to generate revenue levels sufficient to cover costs in an environment where low fares remained the norm. With Jetsgo no longer in the market, Air Canada, WestJet and the interlining combination of Harmony Airways and Canjet were the remaining key air carriers operating networks of national scheduled air services. In September, Canjet stopped providing scheduled air services, opting instead to concentrate its operations on non-scheduled charter air services. Some re-balancing of scheduled air service capacity was observed in the marketplace for scheduled air services. This resulted in some pricing stability for the scheduled service operators remaining in the markets previously served by Canjet. In October, Porter Airlines commenced operating scheduled air services between downtown Toronto's City Centre Airport and Ottawa and in December added Montreal. This provided competition in scheduled air services to Air Canada and WestJet in these two markets.

Some innovative fare schemes were introduced in 2006, such as volume pre-purchasing options and, in the case of Air Canada, the unbundling of its fare structure, which permitted consumers of its products to add or subtract features from the fare, such as advanced seat selection or checked baggage allowances, for example.

INFRASTRUCTURE

Canada's air transportation infrastructure includes aerodromes and a civil Air Navigation System (ANS). The federal government has been reducing its role in the management, operation and ownership of airports since 1994, when the National Airports Policy was introduced. Over the same period, Transport Canada's role has shifted from owner and operator to landlord and regulator of Canadian airports. Transport Canada continues to be responsible for the regulation and safety of the ANS, but facility ownership was transferred to NAV CANADA. These changes promote safety, efficiency, affordability, service integration, innovation and commercialization. The transfer process has been largely completed, and updates are posted monthly on the Transport Canada Web site at www.tc.gc.ca/programs/airports/status/menu.htm.

AIRPORTS

There are approximately 1,700 aerodromes in Canada; facilities registered with Transport Canada as aircraft take-off and landing sites. The aerodromes are divided into three categories: water bases for floatplanes, heliports for helicopters, and land airports for fixed- and rotary-wing aircraft.

Most commercial air activity in Canada takes place at certified land airports. Due to their level of activity or location, these sites are required to meet Transport Canada's airport certification standards.

Airport Authorities

Most airport authorities operate the federally owned National Airports System (NAS) airports under long-term leases. The exceptions are the three territorial NAS airports, which are owned and operated by territorial governments, and Kelowna International Airport, which is operated by the City of Kelowna. The airport authorities are incorporated as not-for-profit, non-share capital corporations with independent and publicly accountable boards of directors.

Financial Performance of Airport Authorities

The majority of airport authorities experienced solid growth in their operating results in 2005. The improved results related to increased revenues from passenger and/or cargo growth. Several smaller airport authorities saw their operating results erode slightly, as flat or modest growth in passenger numbers was not enough to offset cost increases. Airport authorities reported continued escalation in costs, primarily in the areas of goods and services and interest charges. Interest charges grew by 22 per cent in 2005, as airport authorities' capital programs continued to mature.

Capital spending at NAS airports totalled \$1.2 billion in 2005, with Toronto, Montreal and Vancouver accounting for 81 per cent of the expenditures. Toronto and Montreal are nearing the end of their current redevelopment projects, but Vancouver and Winnipeg have embarked on long-term projects costing \$1.4 billion and \$572 million, respectively. The six smallest airport authorities spent an average of \$1.4 million on capital in 2005, much of it directed at maintaining current infrastructure or replacing mobile equipment. Long-term debt for the NAS airport authorities totalled \$9.5 billion at December 31, 2005. The airport authorities continue to use the capital markets as the primary source of funds to implement their capital plans.

Ground lease rent receipts to the Crown increased from \$248.6 million in 2004 to \$277.9 million in 2005, as airport passenger volumes improved and the rent deferral program ended. Rent figures in the financial statements vary considerably from cash, due to accrual accounting requirements related to the deferrals, and to prior year rent adjustments paid to authorities. It should be noted that the Government's new rent formula came into effect January 1, 2006.

The financial results for individual airport authorities for the year ending December 31, 2005, are shown in Table A9-1.

Airport Improvement Fees

Airport authorities collect airport improvement fees (AIFs) to help finance their capital expenditures. In 2005, AIF revenues increased by \$87.7 million to \$504 million and represent approximately 24 per cent of total NAS airport revenues. The majority of airport authorities charge an AIF of \$15 per enplaned passenger. The Greater Toronto Airports Authority also charges an AIF for connecting passengers. These fees are generally collected through the airlines' ticket systems, with only Greater Moncton Airport Authority collecting its fee directly at the airport.

Addendum Table A9-4 displays the current AIFs for NAS airports.

Capital Assistance to and Investment in Airports

In order to help non-NAS airports finance capital projects related to safety, asset protection and operating cost reduction, Transport Canada provides assistance through the Airports Capital Assistance Program (ACAP). To be eligible for the program, airports must receive a minimum of 1,000 passengers annually, meet airport certification requirements, and not be owned by the federal government. In 2006, airports across Canada received more than \$27 million to fund 41 new projects. Table A9-2 in the Addendum shows the allocation of funds by province since the program began in April 1995. Table A9-3 in the Addendum lists ACAP projects approved in 2006.

An example of an ACAP-funded project was the expanded apron at the Fort McMurray Airport, to which Canada's new government contributed \$2,005,130. The project involved the expansion of the apron, the construction of an asphalt shoulder, associated drainage and electrical work, and the replacement of airfield signage. It was an example of Canada's new government directing infrastructure resources to where it was most needed, and the improvements contribute to the safety and reliability of an airport in one of Canada's most important economic regions.

Apart from ACAP-funded projects, work commenced on three airstrips at Hopedale, Black Tickle and Postville, Labrador, in order to bring them to appropriate safety standards. These airstrips provide a vital year-round transportation service for those coastal communities, and the work was fully funded at a cost of \$1.2 million under the federal Labrador Coast Airstrips Restoration Program. The airstrips are owned and operated by the Province of Newfoundland and Labrador.

Canada's new government also funded the building of a new hangar at the Greater Moncton International Airport in order to properly facilitate essential operational and maintenance support for its fleet of aircraft that deliver vital safety oversight, policing and aerial surveillance programs. The new hangar has the added benefit of providing the airport and the community it serves with additional infrastructure to support the development of an aerospace industry and help retain a highly skilled workforce.

Air Navigation System (ANS)

NAV CANADA provides air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. It is a not-for-profit, private corporation that owns and operates Canada's civil air navigation system. NAV CANADA has the right to set and collect customer service charges from aircraft owners and operators. Most customer service charges are applicable to commercial air carriers. For more information on NAV CANADA, visit www.navcanada.ca.

INDUSTRY STRUCTURE

NATIONAL SCHEDULED AIR SERVICES

At the beginning of 2006, there were three networks of national scheduled air services. The largest was provided by Air Canada and its sister company, Jazz.¹ With its fleet of 201 large jet aircraft, Air Canada served 12 domestic points, 33 points in the United States and 59 other international destinations. Jazz, with its fleet of 135 smaller aircraft, served 69 destinations that Air Canada, with its much larger aircraft, could not serve in a viable or sustainable way. In effect, Jazz operations complemented and extended the connectivity of Air Canada's network. Air Canada currently has a capacity purchase agreement with Jazz through which it has agreed to charter all of the latter's capacity until the end of 2015.

WestJet operated the second largest network of air services and with its fleet of 63 Boeing 737-series aircraft, served 23 Canadian points, 11 U.S. points and Nassau, Bahamas.

The third network was an interlining arrangement between Canjet, based at Halifax, and Harmony Airways, based at Vancouver, whose points of service intersected at Toronto, with the former operating to points east and the latter to points west. This arrangement ended in September when Canjet ceased operating all its scheduled air services. At the time, Canjet had a fleet of 10 Boeing 737-series aircraft, while Harmony operated four 171-seat Boeing 757-200 aircraft.

1 ACE Aviation Holdings Inc. (ACE) is the parent holding company for a number of services companies and partnerships, notably: Air Canada; Aeroplan Limited Partnership (Aeroplan); Jazz Air LP (Jazz); and ACTS Limited Partnership (ACTS). Air Canada itself is made up of principal operating companies and partnerships, namely: Air Canada; Air Canada Ground Handling Services Limited Partnership (ACGHS); Touram Limited Partnership (Air Canada Vacations); and AC Cargo Limited Partnership (Air Canada Cargo). At the end of 2006, ACE held a 75 per cent ownership interest in Air Canada, following an initial public offering of that company on November 4, 2006; a 50.3 per cent direct ownership interest in Aeroplan; a 79.7 per cent direct ownership interest in Jazz; and a 100 per cent ownership interest in ACTS. Earlier in the year, on February 2, 2006, ACE completed an initial public offering of the Jazz Air Income Fund (Jazz Fund).

SEASONAL AIR SERVICES

Many air carriers operating large jet aircraft provided charter air services for inclusive package tour operators between Canada and Europe, the United States, the Caribbean and other sun and leisure destinations. Air Transat and SkyService Airlines specialized in providing air services to leisure and seasonal destinations such as Florida, Hawaii, Mexico and the Caribbean in the winter, while mainly serving European destinations through their summer charter programs. WestJet supplied Air Transat with an expanded market, feeding capacity from mid-sized Canadian airports to southern destinations under an exclusive agreement due to expire in October 2010. Air Transat carries approximately 2.4 million passengers annually with a fleet of 15 Airbus aircraft. SkyService Airlines served similar destinations with a fleet of 26 Airbus and Boeing aircraft. Three other airlines also served the international charter market: Harmony Airways and Zoom Airlines, each with four Boeing aircraft, and Sunwing Airlines with three 189-seat Boeing 737-800 aircraft.

Although Canjet ceased operating scheduled air services, it realigned its operations and began operating charter air services to sun destinations in Cuba, Mexico, the Dominican Republic, the Bahamas and Jamaica from various Canadian cities for the 2006 – 2007 fall/winter season.

Air Canada and WestJet also provided charter air services for their own inclusive package tour affiliates, Touram LP doing business as Air Canada Vacations, and WestJet Vacations, respectively.

As well, many small air carriers operating fixed or rotary wing aircraft (i.e. helicopters) provided seasonal air services to lodge operations and hunting or fishing camps, or in support of mining, forestry and other resource industries.

FOREIGN AIR CARRIERS

Twenty Canadian cities benefitted from air services offered by 25 U.S. airlines, while 43 foreign airlines provided services between Canada and 57 international destinations in 39 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Addendum Table A9-5.

NORTHERN AIR CARRIERS

A number of carriers provided jet services in Canada's north, including Air North, Air NorTerra (doing business as Canadian North) and First Air. Others such as Aklak Air, Kenn Borek Air, Buffalo Airways, Arctic Sunwest, Air Tindi and North-Wright Airways also provided air services to

remote communities in the Arctic. Most air carriers operating in Canada's north provide medical evacuation, or "Medevac," services and other transport under contract to the federal and territorial governments.

In all, some 45 airlines provided service to remote communities in niche markets. These air carriers and their major areas of operation are listed in Addendum Table A9-6.

REGIONAL AND LOCAL SERVICE AIR CARRIERS

Many air carriers served regional niche markets throughout Canada (e.g. Pacific Coastal, Bearskin, Air Creebec).

One such air carrier, QuikAir, ceased operating in October. At its peak, QuikAir had operated more than 20 flights every weekday between Calgary and Edmonton City Centre Airport. In January, however, the Edmonton Airports Authority closed the Edmonton City Centre Airport to aircraft having more than 10 passenger seats. QuikAir, whose primary air service was to Calgary, relocated to Edmonton's International Airport, but this move exposed it to competition from WestJet and Air Canada. Like QuikAir, Integra Air also relocated to Edmonton International Airport; unlike QuikAir, however, it was not as exposed to competition because it primarily served the Edmonton–Lethbridge market, for which there is a greater travel time by automobile and a lack of direct competition from other air carriers. Others, notably Peace Air, were permitted to continue operating from Edmonton City Centre Airport because it operated aircraft with 10 or fewer seats.

Like QuikAir, other air carriers offering regional air services have faced competitive difficulties. In the past two years, Quebecair Express (Quebec), Air Sask (Saskatchewan) and Northern Hawk Aviation (British Columbia) have all ceased operating. In 2006, Hawkair (British Columbia) undertook a financial restructuring and operated a much reduced network.

ALL-CARGO AIR CARRIERS

Several air carriers provided dedicated all-cargo air services on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers. These included Cargojet Canada (Mississauga), Kelowna Flightcraft (British Columbia) and Morningstar Air Express (Edmonton). In addition, cargo air services complemented the scheduled passenger air services of many Canadian air carriers.

BUSINESS AVIATION AND SPECIALTY AIR SERVICES

Fractional ownership, or "time-sharing," of aircraft is regulated as a commercial air service. The increasing capital and operating costs of conventional aircraft ownership continue to make fractional ownership an appealing alternative, especially among corporate users.

Specialty air services can be as diverse as flight training, flights for parachute jumping, glider towing, aerial forest fire management and firefighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and helicopter logging, as well as hovercraft services.

Licensing for both business aviation and specialty air services is required. Addendum Table A9-7 shows that at the end of 2006, 2,311 licences had been issued by the Canadian Transportation Agency to air carriers to provide air services defined by those permissions. Addendum tables A9-8 and A9-9 show the number of personnel licences issued by Transport Canada and a provincial breakdown of those licences, respectively.

RECREATIONAL AVIATION

Recreational flying accounts for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada. It is the largest segment of Canada's civil aviation activity and includes motorized fixed and rotary winged aircraft as well as ultra-lights, gliders and balloons, among others. Addendum Table A9-10 provides information on the types of aircraft operated.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

Total passenger revenues in 2005 increased by 11 per cent. Approximately half this increase was due to an increase in price levels, with the rest attributed to an increase in volume of activity. This second straight year in strong activity growth helped the industry to rebound from the demand-depressing effects of 9/11, SARS and the Iraq War and to exceed passenger revenue levels of 2001. However, revenues have yet to meet those of 2000. Overall, over the 2000 – 2005 period, both prices and activity levels were down slightly (-0.4 per cent and -0.7 per cent, respectively).

A large decline in cargo prices (-15.0 per cent) was to some extent offset by an increase in activity level (9.4 per cent). Part of the volatility of air cargo operations indicators comes from cargo data limitations.

In 2005, total factor productivity of the air transport industry overall increased by 7.9 per cent. There was a very large increase in labour productivity resulting from the spin-off of Air Canada's maintenance division and the resulting decline in direct employees. A significant portion of this labour productivity gain was offset by a decline in productivity of other inputs such as the increase in maintenance service costs. Unit costs declined by six per cent in 2005. Declines in the cost of labour and capital contributed to this decrease, as well as increasing load factors. However, unit fuel costs continued to climb in 2005, offsetting a portion of the decline in those categories. Addendum tables A2-61 to A2-64 provide more details on the air transport industry.

FREIGHT TRANSPORTATION

There are no restrictions on routing, capacity or price in Canada's domestic air cargo market. However, Canada–U.S. transborder and other international air cargo services are governed by Canada's international (bilateral) air transportation agreements, other international agreements and national policies.

A number of Canadian air carriers provided dedicated all-cargo air services, notably Cargojet Canada of Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton, which have a combined fleet of 30 aircraft. In addition, Air Canada provided air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for six per cent of Air Canada's revenues in the first three quarters of 2006. In the North, Canadian North and First Air also provided air cargo services, along with numerous other smaller air carriers.

The volume of goods carried by Canadian air carriers from 1993 to 2005 is illustrated in Table A9-11 in the Addendum. Overall, the number of tonnes carried in 2005 decreased by 0.7 per cent from 2004. Operating revenues generated by goods carried by Canadian air carriers are illustrated in Table A9-12 in the Addendum. Between 2003 and 2004, domestic revenues increased by 3.1 per cent, while international and transborder revenues (combined) increased by 5.1 per cent.

The value of goods shipped by air versus other modes is compared in Table A9-13 in the Addendum. The value of air cargo trade between Canada and the United States in 2006 decreased to \$30.5 billion, or 5.5 per cent from 2005. This was more pronounced for exports than for imports. Air cargo's share of total Canada–U.S. trade was 5.3 per cent in 2006.

Table A9-13 in the Addendum also shows that Canada's air trade with countries other than the United States increased by 11.8 per cent in 2006 over 2005. This result can be explained by the surge in exports and imports, which increased by 5.2 and 9.6 per cent, respectively. The air transport mode's share of the total value of trade with other countries was 23.2 per cent in 2006.

The United States, followed by countries in western Europe and in Asia, were the main markets for air transport trade with Canada. High value items such as machinery and electrical equipment, aircraft and transport equipment, and other manufactured goods made up the majority of the goods shipped by air. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum. Table A9-15 shows the value of imports and exports shipped by air and by country for the top 25 countries. Table A9-16 breaks out the commodity groups for goods shipped by air.

PASSENGER TRANSPORTATION

TRAFFIC

Passenger traffic in 2006 reached record levels, with over 68 million passengers, a five per cent increase over 2005. Table 9-1 shows domestic, transborder and international sectors registered growth of seven, four and five per cent, respectively.

For a summary of 2005 traffic at the 26 NAS airports, by sector and region, see Table A9-17 in the Addendum.

DOMESTIC AIR SERVICES

During 2006, Air Canada took delivery of 16 new Embraer (73-seat E175 and 93-seat E190) aircraft, bringing the total of such aircraft in its fleet to 33. Also in 2006, WestJet retired the last of its Boeing 737-200 aircraft and took delivery of two 136-seat Boeing 737-700 and 10 119-seat Boeing 737-600 aircraft, bringing its total fleet of Boeing 737 aircraft to 63. Both air carriers used their newly acquired aircraft to re-balance and expand the capacity of their scheduled air services.

TABLE 9-1: AIR PASSENGER TRAFFIC, 2001 – 2006

(Thousands of passengers)				
	<i>Domestic</i>	<i>Transborder</i>	<i>International</i>	<i>Total</i>
Air Passengers				
2001	24,994	18,568	13,196	56,758
2002	23,862	17,575	12,930	54,367
2003	25,234	16,585	12,661	54,753
2004	27,372	18,507	14,548	60,427
2005	29,111	19,872	15,824	64,242
2006	31,058	20,643	16,541	68,242
Annual Change (Per cent)				
2002/01	(4.5)	(5.3)	(2.0)	(4.2)
2003/02	5.7	(4.1)	(2.1)	0.7
2004/03	8.5	11.6	14.9	10.9
2005/04	6.4	7.4	8.8	7.3
2006/05	6.7	3.9	4.5	5.3

Notes: Data estimated for 2006.

Passenger Traffic is based on enplaned and deplaned passengers, but results for the domestic sector have been divided by two to avoid double counting of passengers.

Source: Statistics Canada

Increases in travel demand were most pronounced from Alberta's booming economy, and a response from all air carriers serving that province was observed. In April, Air Canada began Saturday non-stop flights between Fort McMurray and Toronto, with same-plane service continuing to St. John's, and in June, the service became daily. During the summer, Air Canada, through its sister company, Jazz, introduced several new daily, non-stop services in western Canada as well as to Yellowknife, Northwest Territories, an important gateway to Canada's north. WestJet introduced new twice daily services for Calgary–Fort McMurray and Toronto–St. John's, and during the summer season provided new services between Edmonton and Halifax, and Vancouver and Hamilton.

In a dispute with the Toronto Port Authority over facilitation at Toronto City Centre Airport, Jazz terminated its air services at this airport in February, which left that airport without any scheduled air services until the commencement of Porter Airlines' services in October.

With Canjet's decision to stop operating scheduled air services, Sunwing began growing its presence in Atlantic Canada, providing air services between Toronto and St. John's, Halifax, Gander, Stephenville, Charlottetown and Sydney, in addition to serving London and Vancouver with its fleet of three 189-seat Boeing 737-800 aircraft.

Addendum Table A9-18 shows a list of new and discontinued domestic services.

CANADA–U.S. TRANSBORDER AIR SERVICES

Canada–U.S. border preclearance was introduced at Halifax International Airport in October 2006. In addition to Halifax, U.S. preclearance facilities are in place at airports in Calgary, Edmonton, Montreal, Ottawa, Toronto, Vancouver and Winnipeg. This program allows U.S. preclearance officers to examine travellers and their goods bound for the United States for the purposes of customs, immigration, public health, food inspection and plant and animal health before their flights depart from Canada for U.S. destinations. Through this program, travellers are treated as domestic passengers upon arrival in the United States. Once there, they have easier and timely connections to other U.S. cities, as well as direct access to U.S. airports that have no customs and immigration inspection facilities.

With an expanded fleet of aircraft, WestJet enhanced its fall/winter 2006 – 2007 schedule with the introduction of new non-stop transborder flights and additional daily flights from Canada to U.S. destinations, including West Palm Beach, Phoenix, Palm Springs, Orlando, Tampa, Las Vegas, Fort Lauderdale and Fort Myers. These destinations followed WestJet's extension of its scheduled service to Hawaii into the fall of 2006, with daily service to both Maui and Honolulu from Vancouver.

Air Canada launched new services from Calgary to New York. Through Jazz, it launched daily non-stop service using Bombardier CRJ-705 jet aircraft between Los Angeles and Edmonton, marking the return of non-stop year-round service in this market for Air Canada.

In May, Denver-based Frontier Airlines, a low-cost low-fare air carrier, began operating a Calgary–Denver service using a 70-seat Bombardier CRJ-700 aircraft and in December announced plans to operate Vancouver–Denver service in May 2007 with a 132-passenger Airbus A319 aircraft.

For more details on both new and discontinued transborder services, see Table A9-19 in the Addendum.

OTHER INTERNATIONAL AIR SERVICES

A number of Canada's air carriers were designated by the Minister of Transport, Infrastructure and Communities to operate scheduled international air services, as follows:

- April 2006: Skyservice was designated to operate scheduled air services between Canada and Italy. Skyservice indicated its interest to operate scheduled services to Rome and Venice.

- July 2006: Skyservice was designated to operate scheduled air service between Canada and Portugal. Skyservice indicated its intent to operate scheduled air services to Lisbon and Faro.
- August 2006: WestJet was designated to operate scheduled air services between Canada and the Caribbean countries of Aruba, Antigua & Barbuda, the Bahamas, Bermuda, the Cayman Islands, the Dominican Republic, Guadeloupe, Jamaica, Martinique and the Turks and Caicos Islands. WestJet has since started scheduled air services to Nassau, Bahamas, its first international destination.
- September 2006: Harmony Airways was designated to operate scheduled air services between Canada and Australia and Canada and Fiji through code-sharing arrangements. A Vancouver-based air carrier, Harmony Airways indicated that it would introduce passenger air services by operating third-country carrier code-sharing service to Australia with Hawaiian Airlines and to Fiji with Air Pacific. Code-sharing is a marketing and sales practice by which an air carrier can sell seats in its name on the flights of another air carrier that shares with it a common identifying designator code.
- September 2006: Air Canada was designated to operate scheduled air services between Canada and Algeria through code-sharing arrangements. Air Canada's designation followed the first-ever international (bilateral) air transportation agreement between Canada and Algeria, setting the stage for the first scheduled air service by a Canadian carrier between Canada and Algeria. Air Canada indicated that it initially intends to operate third country carrier code-sharing service to Algeria with Lufthansa.
- September 2006: Sunwing was designated to operate scheduled air services between Canada and the Dominican Republic. Sunwing Airlines indicated that it plans to convert its existing charter services to scheduled air services during its 2006/07 winter schedule.
- November 2006: Air Transat was designated to operate scheduled air services between Canada and Austria. Air Transat indicated that it plans to introduce that service in May 2007, initially on a seasonal basis with a view to converting it into a year-round service based on market demand.

In June, Air Canada expanded its service to Asia with three-times weekly non-stop service between Toronto and Shanghai. The service is the only non-stop flight from eastern North America to Shanghai as well as the fastest, saving travellers three hours in each direction compared to a Vancouver routing.

After a 25-year absence, British Airways began operating five-times weekly non-stop flights in December between Calgary and London's Heathrow Airport using long-haul Boeing 777 aircraft.

For the third consecutive year, Zoom operated a low-fare air service on a transatlantic basis between six European airports and seven Canadian destinations.

See Addendum Table A9-20 for a list of new and discontinued international scheduled air services.

COMPETITION²

The number of networks of national scheduled air services fell from three to two when in September 2006, Canjet realigned its operations and stopped providing scheduled air services, ending the network it had been providing with its interlining partner, Harmony Airways. Other air carriers, including Air Canada, WestJet and Sunwing, introduced some additional capacity to make up for some of the absence of scheduled air services in Atlantic Canada due to the exit of Canjet. But on a national scale, Air Canada and WestJet were the two remaining incumbents at year-end.

Increases in competitive domestic and international air services were noted to meet the growing travel demand resulting from the strength of Alberta's economy. In addition, several air carriers received designations to operate international scheduled air services from Canada. New designations are an indicator of the potential for heightened international air service competition in 2007 and beyond.

Air Canada along with Jazz provided approximately 61 per cent of the Canadian air carrier industry's overall domestic scheduled capacity, with Jazz providing approximately 96 per cent of Air Canada's regional air services capacity. Within Canada, Air Canada and Jazz operated more than 1,066 non-stop flights per day on 130 routes to and from 60 Canadian airports at the height of the peak summer season.

Air Canada provided approximately 42 per cent of the overall transborder scheduled capacity. Between Canada and the United States, Air Canada along with Jazz operated more than 416 non-stop flights per day on 76 routes to and from seven Canadian destinations and the 48 states of the U.S. mainland at the height of the peak summer season.

Air Canada provided approximately 46 per cent of the overall international scheduled capacity between Canada and Europe and Canada and Asia.

WestJet provided approximately 29 per cent of the Canadian air carrier industry's overall domestic scheduled capacity.

Within Canada, WestJet operated on a year-round basis to and from 22 domestic points.

WestJet entered the Canada-U.S. market in the fall of 2004 and by 2006 held four per cent of capacity, servicing nine transborder points plus Honolulu and Maui. Its services extensively target southern tourist destinations, especially during the winter season.

See tables A9-21 and A9-22 in the Addendum, and for the summarized results of the top 25 domestic markets, see Table A9-23.

² Based on Official Airline Guide ("OAG") data.

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